—Photo by Charles B. Tator, Portland, Oregon.

AT THE POOL

Editors: G. H. Cale, Frank C. Pellett, M. G. Dadant, J. C. Dadant

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HONEY CONTAINERS

We have a good stock of glass jars and tin cans on hand. Because of the necessity for conserving tin, we strongly urge the use of as much glass as possible. The 5-lb. and 10-lb. glass jars with bails are very substantial and make a fine appearance. Each buyer of glass and tin will be asked to sign a certificate stating that he will not use these packages for other purposes than packing honey, sorghum or maple syrup, and that he will not use a greater *percentage of tin* for packing his honey than he did in 1941.

GLASS JAR PRICES

MASTERLINE—MODERNISTIC JARS

Case of 24—8 oz.	$ .62 per case
Case of 24—16 oz.	.82 per case
Case of 24—32 oz.	.60 per case

Later in the year we will have the new round Victory and Duraglas jars.

LARGE JARS WITH BAILS

Case of 6— 5 lb.	$ .42 per case
Case of 4—10 lb.	.45 per case
Case of 12—2½ lb.	.58 per case

HONEY LABELS

A complete catalog of sales compelling labels, ready to try out on your honey containers (on request).

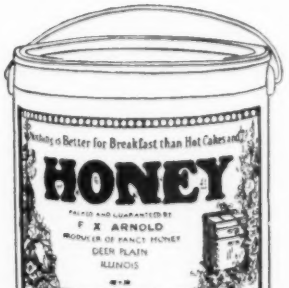
TIN CAN PRICES

	In Cartons of 50	100
*2½ lb. cans		$3.80
5 lb. pails	$3.25	6.50
10 lb. pails	4.90	9.80

*2½ lb. cans only as long as stock lasts

60 lb. cans in Single Cartons	each	$ .45
*60 lb. cans Bare (No Cartons)	each	.31
60 lb. cans 16 in Carton	per carton	5.50

*Bare 60 lb. cans (no cartons) shipped by truck or rail at customer's risk only and subject to 20 per cent freight rate penalty.



Reshipping Cartons, Honey Signs, Sample Bottles, Mailing Cases

JUST DROP A CARD TO

DADANT & SONS : Hamilton, Illinois

—Photo by Paul Hadley, Piggott, Arkansas.

ELDERBERRY IN BLOOM

ADVERTISERS' INDEX

GUEST EDITORIAL

LOOKING AHEAD

By JOHN G. JESSUP

THE present emergency brings to light weak points of our industry which pass unnoticed in ordinary times. The present advance of honey prices due to stimulation of war and threat of sugar shortage, should not blind us to the fact that we shall be faced with a serious problem when the emergency is over. Production is bound to increase under our present conditions. After the war this increased production will again result in prices below cost of production unless the beekeepers take advantage of the present opportunity to organize and prepare for stormy weather. Through cooperative planning it should be possible to avert a repetition of overproduction and ruinous prices.

Mr. Clay of the Federal Marketing Service in January A. B. J. calls attention to the fact that honey of the same grade has sold at a price range of one and one-half cents per pound in car load lots in the same area. This condition is deplorable. Small wonder the buyer is cautious in making offers for honey. He will have little opportunity to get business if a competitor buys at 25% less. Who is responsible for this condition? There is no use in passing the buck to the honey buyer. It is the beekeeper's responsibility to know what his product is worth. The remedy is to be found in organization and cooperation.

At present every producer offering honey for sale is in direct competition with every other producer. One distressed car of honey in the hands of the unscrupulous buyer is used to bring down the price on other lots. Other buyers are forced to buy at this same price to meet his competition. So the market is established on the basis of how cheap honey can be bought and not on what the consumer will pay.

Instead of each individual selling his honey where best he can, the producer should have a common selling agent employed to see what demand there actually is for honey and what volume of honey is available for market. Honey held in such a strong cooperative agency could easily control the market.

The beekeeping industry has advanced in the past twenty-five years largely as a result of the leadership given by editors of bee journals, manufacturers of beekeeper's supplies, honey bottlers, and State and Federal officials. Our present beekeepers' organizations are inadequate until they reach into every county and township where there are honey producers. Present organizations are made up of a very few members of the industry. If an all-inclusive organization existed in our present emergency, how it would simplify the problem of securing sugar for spring feeding, cans for the crop, and tires to operate the beekeeper's truck.

Now is the time to organize an I. B. A. (Independent Beekeepers Association) or an I. H. P. A. (Independent Honey Producers' Association) which will reach every beekeeper in the country. By representation in State and National meetings it should be possible to prevent the recurrence of ruinous prices by means of a two-way program. 1. To increase consumer demand by providing our American Honey Institute with ample funds to advertise honey to the public. 2. To market the crop in an orderly manner eliminating individual cut throat competition. With advertising and marketing backed by the entire industry the honey producer would be out of the "Less than cost of production," class for good.

Beekeepers through the ages have been Rugged Individualists—selling their honey to whom they please, when they please, and at the price they please. That is the easy way.

Iowa.

Bee Supplies Again

MANY have been disappointed in not receiving some supplies ordered from us the past few weeks. However, we have secured an additional allotment of nails by an appeal to the War Production Board and should now be able to supply all orders.

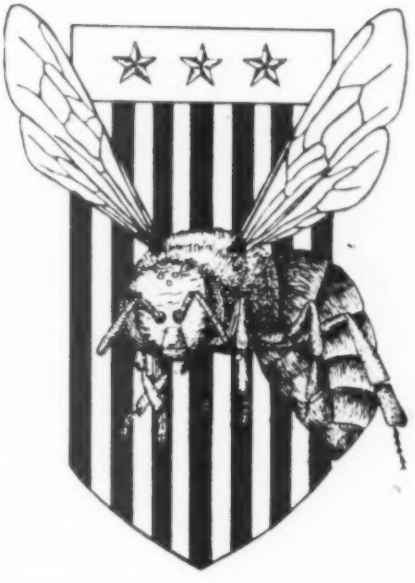
However, the increase granted does not include any metal for metal roof covers, smokers, veils, extractors, excluders, hive tools nor any item made of metal. These we will not be able to supply until metal needed for the war effort is available in such quantity as to again permit the manufacture of metal bee supplies.

Keep Socking Him With *Both* Hands!

Instead of a metal roof cover, we offer our telescoping all wood **"Victory"** cover with inner cover at a lower price in 8-, 10- and 11-frame sizes. All articles made with dovetails will be bored for nailing, an exclusive Lewis service, but nails will be enclosed with such goods for only every other dovetail. In this way we can share our allotment with more customers, many of whom can secure additional nails locally.

Although we had more finished goods on hand ready for shipment last February 1 than for many years, the avalanche of orders that came in swamped us. We offer apologies for our dealers, branches and ourselves. We did the best we could, and now that the 1942 rush is over, we suggest that you order now for 1943 use. No provision has so far been made by the War Production Board for 1943 nails.

THE SLOGAN CONTEST FOR SAVING BEESWAX



YOU HELP PICK THE WINNER

THE beeswax-saving slogan contest is over. Slogans poured in. We tried to send acknowledgment cards to everyone who answered. The big job was to pick out those slogans which seemed to be the most promising.

Over 409 slogans were received from 167 entries. In one location a local contest was instituted resulting in over 300 slogans from which the four which seemed to be the best were sent to us. Those who entered sent anywhere from one to a dozen slogans.

Universally, it was realized that saving beeswax, as an act and as words, is difficult to get into a slogan which will give full meaning to the need for wax for our army, navy and air force. The beekeeper has been conscious of wax for industrial use, for the making of bee comb foundation, and for the drug trade. It is a relatively new idea to the beekeeper, however, to find wax needed for material to coat ammunition, airplanes, shoes, skis and other articles; for pharmaceuticals and medicines and for chemical warfare. It is a new idea to provide beeswax for hundreds of war uses. It is a new idea that we have such a definite and surprising part to play in the campaign for victory.

The slogan, therefore, must stimulate this consciousness. It is to be used from month to month in various pieces of printed matter, letters, posters and appeals to go to the beekeepers constantly to stimulate the effort to get all the wax possible.

The majority of slogans fell short of the snap and descriptive meaning which seems necessary. The staff of American Bee Journal sorted out from the many slogans a list of 20 which were voted upon to pick the three which seemed to be the best. Those three appear on this page.

Now we ask our readers to help in the final decision. Send us a card giving the slogan which you think to be the best of the three. Replies will be welcome up to the day of issue of the September Journal. Our final pages usually go to press on the 20th of the month preceding the date of issue. In other words, you have until August 20 to pick the slogan you think to be the best of the three.

The grand winner of the $25.00 war bond offered for the slogan accepted will be announced in the September issue, and the slogan itself will appear then to be used in the campaign for increased beeswax production.

Here are the slogans. Which do you think is the best one? Send a postal card between now and August 20 naming your choice.

WAX WAGES WAR

Beewax Production Aids Axis Destruction

Wax the Way to Victory

BUY WAR BONDS

WHAT PRICE FOR MY HONEY?

This question is being asked by beekeepers everywhere and up to the present time the only reply we can give is that the maximum price at which the beekeeper may sell his extracted honey is the highest price for which he sold his honey during the month of March, 1942. If he sold no honey during March, 1942, then the "Progressive Pricing Formula" as given in the July issue of the American Bee Journal, at the bottom of page 301 applies.

There is one exception and that is that a beekeeper may sell at any price he chooses so long as his sales do not exceed $75 worth per month. On larger quantities sales must be made at a price no higher than the highest March price (provided the beekeeper sold honey in March) or no higher than the nearest competitive price for the same size packages in the same territory.

There may, however, be relief in store for the beekeeping industry as an effort is now being made to have the OPA reclassify extracted honey so that it will not be considered an "unprocessed product."

It will, if it is reclassified, automatically be taken out from under the regulation of the "price freezing" order by OPA. However, this action has not been taken and for the time being and as this is written (July 20) the price freezing order must be heeded. The same rule applies to beeswax as to honey. Fortunately sales of beeswax during the month of March were uniformly high while on honey there was a big variation between the sales made early in March and during the latter part of March as well as between one producer's price and another's.

In the event that extracted honey should be declared an "unprocessed product," and the price ceiling should be removed, please bear in mind that WPB order, M-118 (Page 302, July issue) will undoubtedly still remain in effect. This order, as we all know, limits the use of honey by commercial users to 120% of 1941 and limits the sale to new users of honey to 200 pounds per month. In our opinion it is not likely that M-118 will be repealed although we have seen some circular letters advocating that action. Its amendment on June 19 has eliminated the most objectionable features.

With the very short crop of honey that is apparent, it is the opinion of the editorial staff of the American Bee Journal that there is not going to be much difficulty in disposing of the 1942 crop at prices that will be remunerative. The big stumbling block at the present time is the confusion caused by the OPA freeze order and we are very much in hopes that honey may be eliminated from that order.

♦

THE RUBBER SITUATION

Last week I appeared before the Subcommittee of the Senate Committee on Agriculture to report upon the Government's war-time synthetic rubber program. The Subcommittee has given extended attention and contributed valuable information regarding the relative merits of various processes and materials for making synthetic rubber. Yet I know that you will agree that we must avoid the misconception that the discovery or improvement of a process for manufacturing rubber means that there will be an abundance of rubber for civilian needs or that the Government's program is halted by indecision in search of a perfect process. It is the scarcity of critical material for the construction of synthetic rubber plants and not the lack of processes which limit its production. The construction phase of the program to provide for critical needs is moving forward with great speed. The military necessity for rubber to keep our mobile forces going requires that this program be pushed to completion.

Since my appointment as Chairman of the War Production Board in January, I have carried responsibility for the entire war production and procurement program. The provision of synthetic rubber is one of the most important parts of that program. I accept full responsibility for what has been done in this program. Soon after I became chairman, conquest by the Japs in the Far East cut off 97% of our former supplies of crude rubber. It was necessary to act quickly and decisively to provide substitute supplies and to conserve our goods in stock. The tremendous size and complexity of our all-out war production effort requires proper balance and careful adjustment of our military, foreign and domestic needs. According to present estimates of rubber production possibilities, we can look forward to 32,300 long tons of synthetic rubber this year, and a total next year of possibly 338,000 long tons.

It has been proposed by the Subcommittee in Senate Bill 2600 that an independent rubber supply agency be created charged with the duty of constructing facilities to provide enough synthetic rubber to meet all military and civilian needs of the United States. In my opinion it would be a rash act at this stage of the war to ask for the diversion of the great amount of materials necessary to accomplish that objective. Even the present 800,000 ton synthetic rubber program for government and critical civilian needs calls for 122,000 tons of steel plate, 210,000 tons of other steel, 7,000 tons of copper, bronze and brass, and about 170,000 horsepower of compressor capacity at a time when the present war effort requires every pound of metal possible to obtain.

Perhaps the most critical shortage which affects the synthetic rubber program is air compressors. The present program will take 37% of the total compressor production for the last quarter of 1942 and 22% of the total production for the first quarter of 1943, and yet the production of explosives depends upon compressors, to manufacture the required amounts of ammonia, toluene, and other primary components. Compressors also are necessary for the production of aviation gas and of ships, as well as many other critical military items.

In fact such enormous quantities of war materials are required in the war program that we are in grave danger of running short. Senate Bill 2600 is set up to create an independent rubber supply agency with power to divert critical materials to the construction of facilities for the production of additional synthetic rubber from alcohol as the base material in an amount sufficient to fulfill all military and civilian needs. We cannot afford to do that at this time. The requirement that critically scarce materials be taken from the production of essential munitions would hold great danger of impeding the war effort.

Donald M. Nelson, Chr.
War Production Board.

(War Production Board Release, July 14, 1942).

AMENDMENT TO EQUIPMENT ORDER

BEEKEEPERS of the United States, called upon by the Government to increase honey production to assist in offsetting shortages of sugar and beeswax, will benefit by the terms of an amendment to the farm machinery and equipment order, announced today by the Director of Industry Operations.

Amendment 4 to Limitation Order L-26 authorizes a substantial increase in the output of wooden beehives. Previously permitted production of all beekeepers' supplies was 100 per cent of 1940 output. This is now altered to allow manufacture of 133 per cent of the hives produced during the base period, provided those to be made are of wooden construction. Production of metal hives is still subject to the terms of the original order.

It is estimated that at the expense of 95 tons of steel for the necessary hardware, enough additional wooden hives may be manufactured to produce 75,000,000 pounds of honey and 1,000,000 pounds of beeswax. The latter is important in counteracting curtailed imports.

Another provision of the amendment permits the production of belt-driven, but not electric, irrigation turbine pumps of 1,200 gallons per minute capacity, and larger, in sufficient quantities to fill orders rated A-3 or better. Previously, production of any turbine pumps of these sizes was prohibited.

Title 32—National Defense

Chapter IX—War Production Board

Subchapter B—Division of Industry Operations

Part 1029—Farm Machinery and Equipment and Attachments and Repair Parts Therefor

Amendment No. 4 to Limitation Order No. L-26

(a) Schedule A (including Schedule A-1) as defined in Section 1029.1 (Limitation Order L26 as amended), is hereby amended in the following particulars:

(1) Division 1 (Beekeepers' Supplies) of Group 17 (Miscellaneous Farm Equipment) is hereby amended to read as follows:

Division 1. Beekeepers' Supplies:	Quota
Item 1. Beekeepers' supplies (except beehives)	100%
Item 2. Beehives (wooden, except for necessary nails, and steel strips and wire for foundation frames)	133%

J. S. Knowlson,
Director of Industry Operations.

♦

CURTAILMENT OF MEETINGS

Deferment for the duration of all meetings, conventions and group tours not closely related to the war effort is called for by Joseph B. Eastman, Director of Defense Transportation. He also asked recently that all state and county fairs be postponed. Attendance at meetings closely related to the war program should be skeletonized, according to Mr. Eastman.

Because of the steady rise in the volume of passenger traffic on railroad and bus lines, an appeal was made to the American people voluntarily to impose restrictions on travel. Vacations should be staggered throughout the year, and vacation travel scheduled so trips will neither start nor end on weekends. Private passenger cars should not be used for extensive vacation travel. It is difficult to foresee the future with any accuracy, but it is clear that travel as usual is out for the duration.

(Office of Defense Transportation, June 19.)

♦

POSSIBILITY IN GAS RATIONING

From Bakers Weekly for July we read of the possible limitation which may be imposed on us in the use of trucks and cars in beekeeping under the extension of the gasoline rationing as it is now applied in the eastern states.

Trucks, taxis, ambulances and government vehicles would likely be issued one or both of two types of "S" books. The "S-1" book has 96 coupons worth five gallons each, whereas the "S-2" will have 384 coupons worth 5 gallons each. Applicants would be issued either of the "S" books depending on their proved requirements for a four-month period.

Estimating this in terms of our own truck use, we would likely have an abundance in the "S" book for each four month period, so there is not much likelihood of any serious limitation in bee yard or crop hauling due to the possibility of gas rationing.

Buy War Bonds

♦

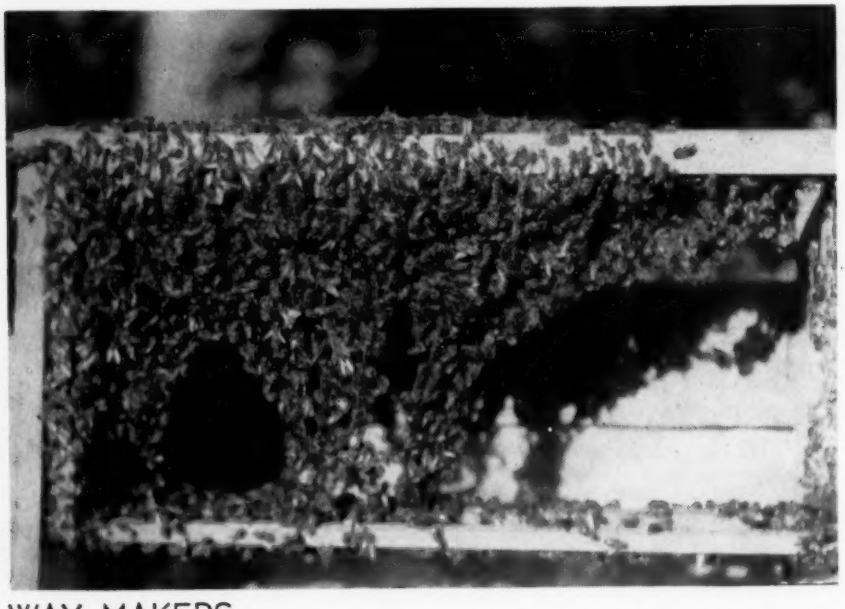
PERHAPS WAR YIELDS A PROFIT

Most wars follow a pattern. Among a righteous people, wars build character. Fire tempers steel. Perhaps England and America are thus finding and forging a new soul. Perhaps there is a moral gain (as well as a war economy) in the gas and rubber rationing and price controls. Perhaps the old spirit of "Love thy neighbor, help thy neighbor" is coming into practice again. Perhaps our little discomforts, so insignificant compared to the blasted homes and lives of Europe, may yet make us a bigger, a braver, and a less selfish people. Perhaps if this world conflict rubs off some of the synthetic social veneer that clogs our vision and our thinking, and once more makes us sympathetic realists facing human issues, frankly and fairly, then we of America have approached again that mental attitude and spiritual setting which years ago guided our ancestors when they first made this country free and later made it great. In such a case, the war, in spite of its costs in men and money, has still yielded a profit.

(Yankee Food Merchant, May, in Release No. 23, Office of Information, United States Department of Agriculture, Washington, D. C.)

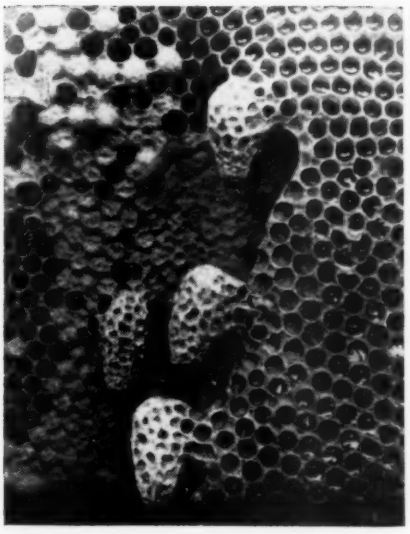
THE DAWN PATROL

This picture appeared in the St. Louis Daily Live Stock Reporter for March 24, and was sent to us by Dr. F. A. Renner of Lebanon, Illinois, and by Edw. M. Klein, Gurnee, Illinois. It is produced with the permission of the "Reporter." It needs no explanation.



WAX MAKERS

This picture of the wax makers was taken by Frank C. Pellett, here at Hamilton, Illinois a number of years ago. The frames were placed with starters in a regular hive. Then pictures were taken of them in their different formations as they drew out their wax. It has been suggested by some that this would be a good way to make wax for war needs. It is doubtful, however, if the amount of wax at this cost would be advisable. It is better to use less wasteful methods of practice such as fewer combs in supers to get deeper combs of honey from which the wax may be cut even with the wood. Saving scrap lengths from hive parts, top bars, excluders, inner covers, etc., the scraping of the extracting combs thoroughly at the time of uncapping and the gathering up carefully of all waste wax will probably add a million or more pounds to the production whenever the crop is normal.



SWARM CELLS

This picture shows swarm cells as they appear naturally on the edges of comb frequently along the bottom and up the sides, where there is an opportunity to start them in abundance. They are usually all about the same age.

On the other hand, supersedure cells may be built directly off the surface of the comb much like the one at the back in this picture. These supersedure cells are usually formed around larvae of suitable age which are floated out to the surface of the regular worker cell with an abundance of royal jelly.

This picture, therefore, may be used to illustrate the two kinds of cells, swarm cells, which are those constructed on the edge of the extra built comb at the front of the picture, at the back built off the normal brood and supersedure cells, like the one cell. Frequently supersedure cells are built at the time of swarming and the colony swarms with a virgin queen. This is one of the disadvantages of having old queens in the colony in the spring period.

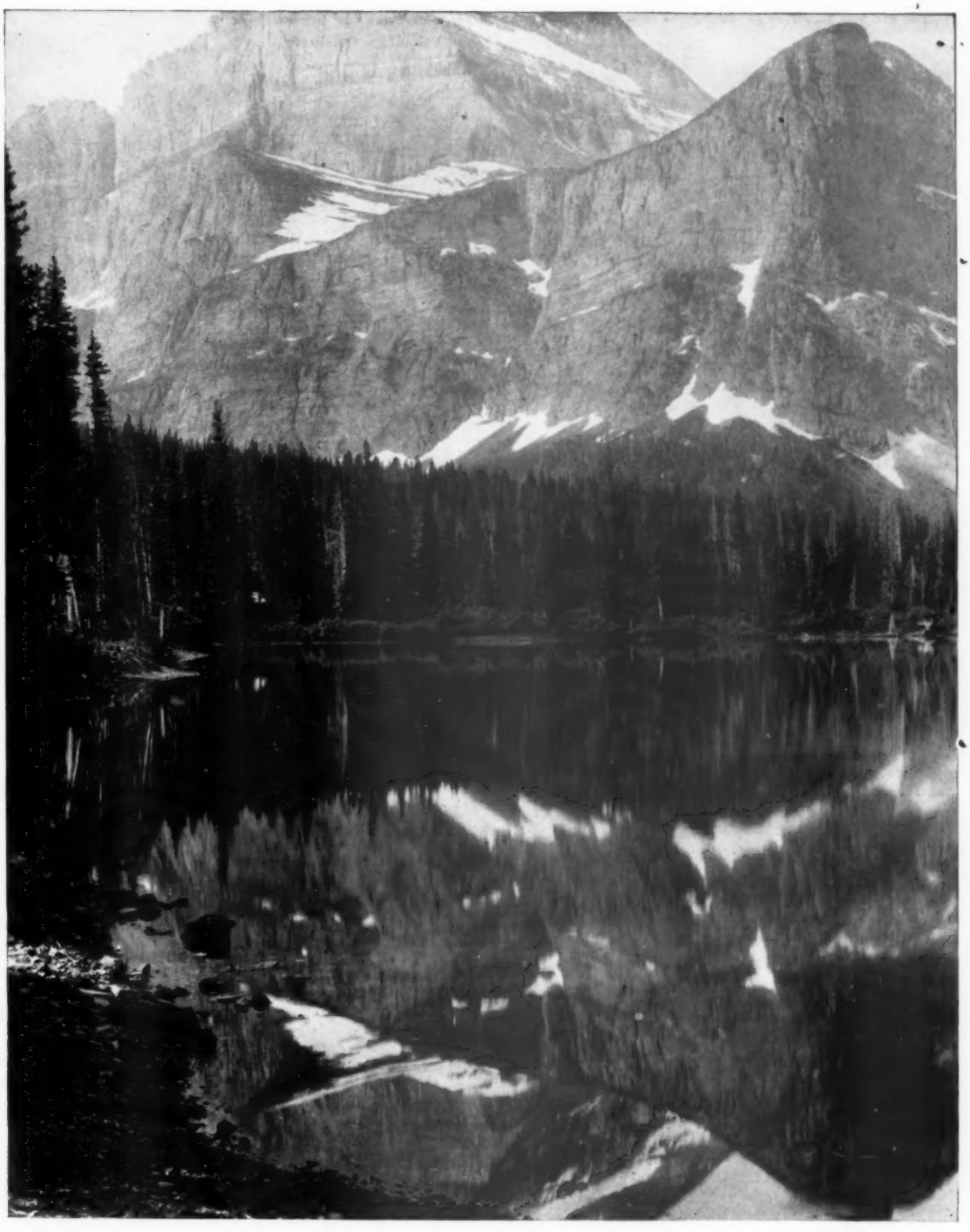
♦

FATHER FERLIN'S FRAME

The article in the July issue, page 306, on Father Ferlin's frame has brought him a lot of correspondence from beekeepers who are interested in trying it. Father Ferlin writes: "It is impossible for me to answer all the letters or even to send samples. I am trying to find someone who will make these frames so that those who are interested can have them. In the meantime, I wish to thank all who have shown such enthusiasm."

Rev. John Ferlin, O. F. M.
St. Mary's Seminary,
Lemont, Illinois.

FEATURES

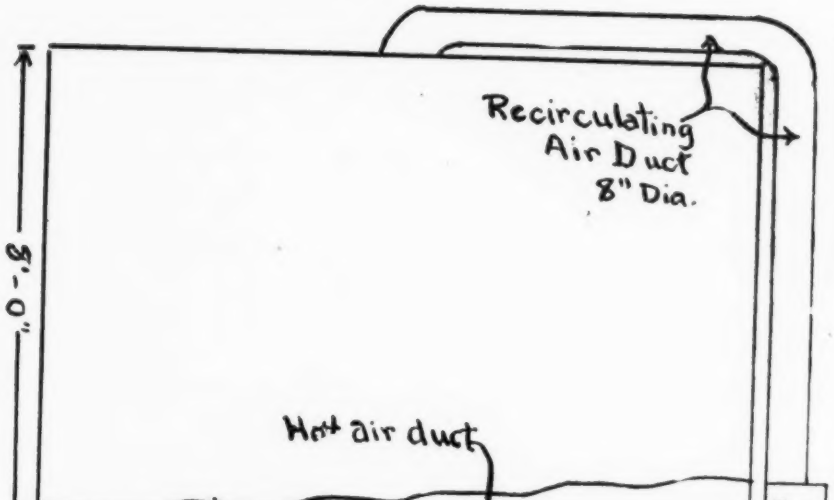


—Photo by Glacier Park Photo Shop.

GOULD MOUNTAIN AND JOSEPHINE LAKE

A HOT ROOM FOR THE REMOVAL OF MOISTURE FROM HONEY

By W A. STEPHEN



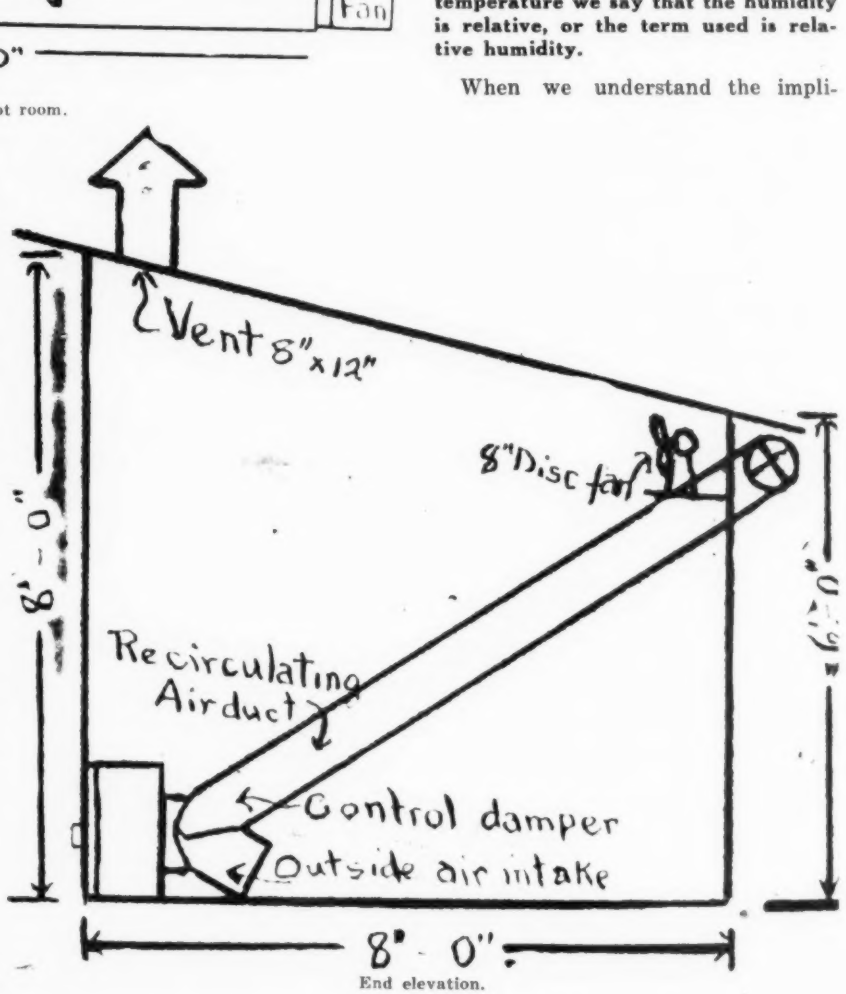
Plan of hot room.

IT has been shown experimentally that it is possible to remove moisture from honey in the comb, by forcing hot air through the supers. In the investigations conducted at the Bee Division, Central Experimental Farm, Ottawa, the honey lost enough moisture to raise it from Grade III to Grade I. The interest on the part of beekeepers, as a result of this work, indicates that there are many who would use such a method to raise the quality of their honey. Consequently, as a result of requests the accompanying plans have been designed.

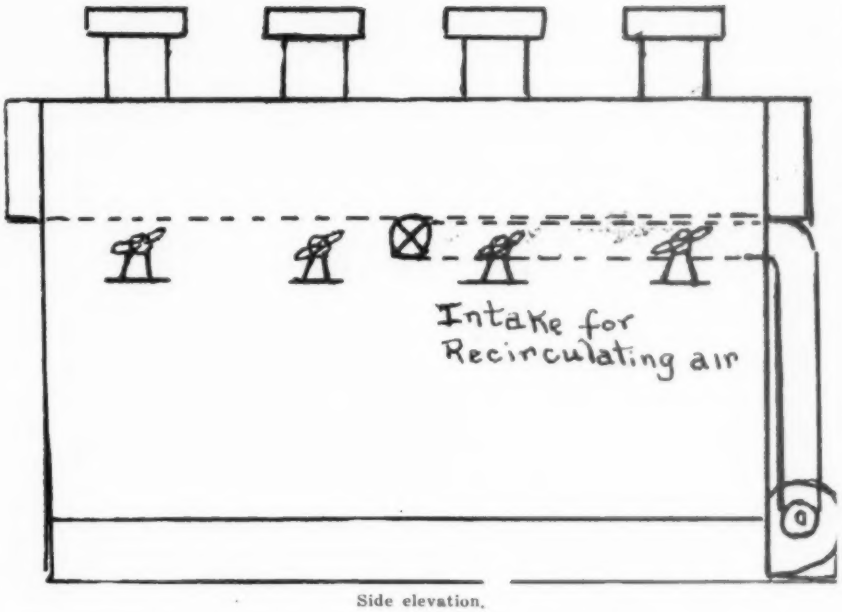
In order that one may appreciate the necessity of such a set up, there are two features that must be fully understood. First is the fact that **heat is a form of energy,** and that **it is this heat energy and no magic property of air that is responsible for removing the moisture.** The air is the carrier of the heat and as it becomes cooled the heat energy lost has done work in evaporating water.

Second is the relative term humidity. Humidity is moisture dissolved in air. Air is capable of absorbing moisture in exactly the same way as a cup of tea is capable of absorbing sugar, and the amount of moisture which is dissolved in the air is dependent upon the temperature of that air, just as the amount of sugar dissolved in a cup of tea is dependent upon the temperature of the tea. If it is raining the air is practically saturated and we say its relative humidity is 100 per cent. But if that same air is heated it is no longer saturated. If it is heated from 70° F. to 90° F. it will only be 50 per cent saturated, **although still containing the same amount of moisture.** On the other hand if the same air is cooled below 70° F. it must give up some of its moisture. This is what happens when a jug containing cold water "sweats" on a sultry day. The moist air around the jug becomes cooled to the point that it deposits some of its moisture on the side of the jug. **Since the moisture carrying capacity of the air is dependent upon the temperature we say that the humidity is relative, or the term used is relative humidity.**

When we understand the impli-



End elevation.



Side elevation.

cations of the words heat and relative humidity we can understand more readily the need for heat and why air, when heated, becomes a better drying agent.

In using heated air for removing moisture from honey in the comb the air must not have a temperature much in excess of 100° F. or the wax will soften, resulting in leaking combs. In order that the air will come in contact with the honey in the cells to absorb and carry away the moisture it must be blown through the supers. Remember there is heat energy used up in the absorption of the moisture and that this heat must be carried by the air. Thus the air does two things. It carries the heat to the honey and carries away the moisture.

While it is quite possible to calculate the amount of air necessary to carry away the moisture, it has been found that it always requires more air to carry the heat which is used up in raising the temperature of the honey, combs, supers, etc. and in evaporating the moisture, so the later is used as a basis of calculation.

As heat is a form of energy, it can be measured. The unit of measurement is known as the British thermal unit (B. t. u.) and it is defined as the amount of heat necessary to raise one pound of water one degree Fahrenheit. It requires approximately 1000 B. t. u. to evaporate one pound of water.

For each ton of honey, combs and supers as they come from the yard it requires approximately 20,000 B. t. u. to raise the temperature from 75° to 100° F. To evaporate 2 per cent of moisture from the honey will require an additional amount of about 50,000 B. t. u., or a total of 70,000 B. t. u.

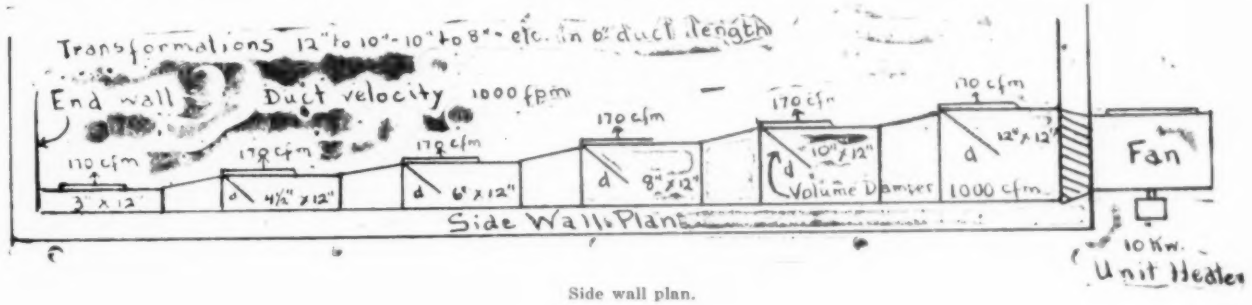
One cubic foot of air dropping 1° F. will yield 0.017 B. to u. If the air enters at 100° F. and leaves at 90° F. it will yield 0.17 B. t. u. per cu. ft. and to furnish 70,000 B. t. u. will require nearly 420,000 cu. feet of air. To provide for loss this amount should be increased one-third, so that, in all, about 560,000 cu. ft. of air dropping 10° F. from 100° F. would be required to pass through the room to remove 2 per cent of moisture from one ton of honey. Air circulating at the rate of 1,000 cubic feet per minute would accomplish this in 9 hours, 20 minutes.

Many beekeepers would want to place two or three tons of honey in the hot room at one time and leave it there over night. This should be possible with the set up as illustrated in the accompanying plans, because the above calculations have been based on liberal allowances. However, for larger amounts it might be necessary to let the honey remain in the room longer, or to build a larger room and use a larger capacity heater and fan.

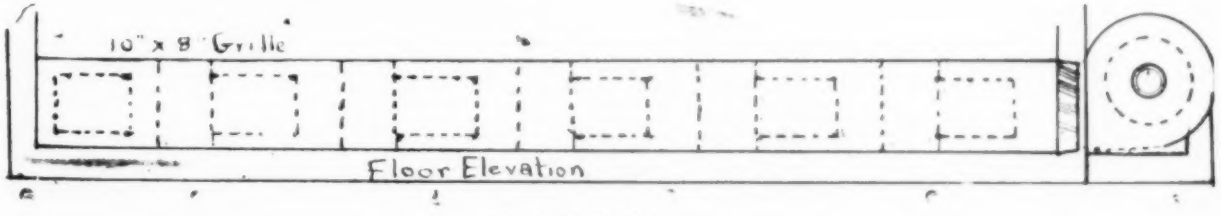
In order to heat the air sufficiently and at the same time control the temperature a 10 Kilowatt electric heating unit with thermostatic control has been suggested. The heater, coupled with a centrifugal blower, or fan, preferably belt driven so that its speed can be varied, would form the heater-circulating unit. A distribution duct* laid along the wall on

(Please turn to page 365)

*The author is indebted to Mr. E. B. MacRobie, Refrigeration Engineer, Dairy Products Division, Department of Agriculture, for design of distribution duct and recommendations regarding heater and fan.



Side wall plan.



Ductwork for hot room.

Example of tapa print, made from bark, by Tahitian.

TAHITI IN 1942

By E. L. SECHRIST
California

LET us break the procession of "Things Seen and Heard," with something about Tahiti where I lived for seven years. Partly because that little island, a part of French Oceania (Free French) is now on our war maps and is becoming a place to us rather than merely the South Sea island of romance and enchantment. Partly because I have been reading a book, "Come Unto These Yellow Sands," by Earl Schenck, which has a most excellent chapter on Tahiti, besides chapters on other islands inhabited by the Polynesians.

Earl Schenck lived in the house next to ours during the first of our stay in Tahiti, in Punauuia; and he and his wife were among our first friends. A native of Ohio, like myself, he was also a wanderer. He visited us in Papeari, in the house of Robert Keable, just across the road from Mauu's hostelry, put up a sail on our outrigger canoe, just as a native would, and enjoyed himself sailing on the great Phaethon Bay.

Schenck writes of the country, also of the District of Vairao, ten miles farther on, where we built our house. He writes of Zane Grey's fishing camp, Flower Point, a mile north of our place, and of the Russian, Archangelsky, who lives a mile along the beach in the other direction. The book touches on the parts of the island we knew best. It is well written and gives an excellent account of life in Tahiti.

Schenck lived a long time in Samoa and Hawaii. He was made a Samoan Chief and was received with royal honors in New Zealand and wherever else he went among the Polynesians, or "Kanakas," as they are sometimes called (kanaka means, simply, man.) These people have always considered themselves as men worthy to stand alongside other men. They have never been servants, except for the small remainder among them of the aboriginal people whom they call manahune, who are still looked on as a lower class than the real Polynesians.

Earl Schenck was doing ethnological work and was for a long time associated with J. Frank Stimson, whom I also knew and who is the world's authority on Polynesian languages and people. Stimson lives in Papeete with his Polynesian wife and is on the staff of the Bishop Museum of Honolulu. I have heard the story of his romance from his lips. He is one of the few people who know Polynesian psychology well enough to live happily with a Polynesian woman.

Tahiti lies on the southeastern edge of our great convoy route to Australia and New Zealand, while Samoa and Hawaii lie on the northwestern

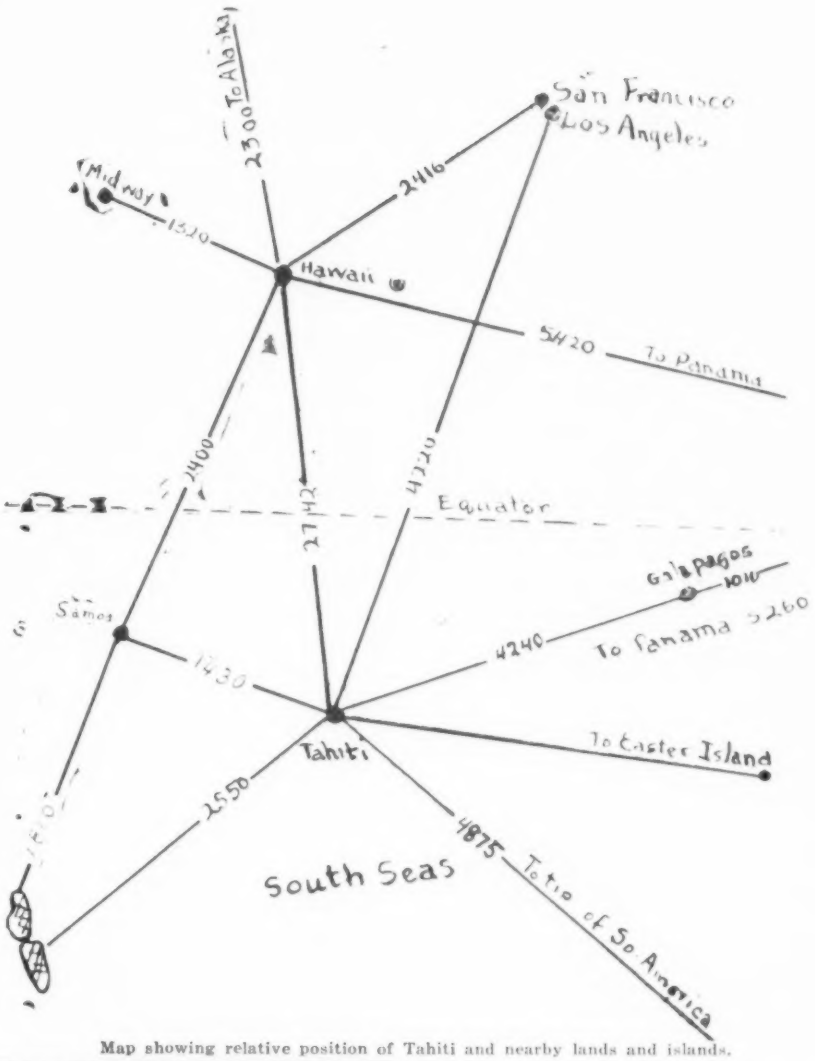
Carved wooden tablet from Easter Island.

edge. The sketch map illustrates more clearly than words the location of Tahiti, with regard to the United States, the Panama Canal, Hawaii, and Samoa. It will be seen that Hawaii lies 2,415 miles southwest of San Francisco and Los Angeles, while Tahiti lies 2,742 miles south of Hawaii and 5,260 miles from Panama. West of Tahiti, 1,430 miles away, lies Samoa, 2,400 miles southwest of Hawaii. To the southeast of Tahiti, 4,875 miles away, lies the southern tip of South America. From Tahiti southwest to New Zealand is 2,550 miles, with Australia 1,320 miles farther on. Samoa lies 1,810 miles north from New Zealand.

A line drawn from Hawaii through Samoa to New Zealand, then northeast to Tahiti and north to Hawaii bounds a great triangle including many small islands also peopled by the Polynesian sea rovers. Another area of about equal size peopled by them also lies to the south and east and northeast of Tahiti.

So it will be seen how Tahiti, the foster mother of the Polynesian people lies like a great spider in the center of its web reaching out its long legs over all the homeland of the Large Brown People of the Pacific, the "Vikings of the Sunrise," as Peter Buck, a Polynesian of the Maoris of New Zealand, has called these people in his book of that title. Like Stimson, he is now with the Bishop Museum; indeed, he is its director.

Far away to the east, near the coast of South America, the Polynesians settled Easter Island where were found the gigantic stone



Map showing relative position of Tahiti and nearby lands and islands.

Comparison between script from Upper Indus Valley and the script on the Easter Island tablet. Characters with double lines are from Easter Island.

images and the only specimens of Polynesian writing that have ever been found. Even this is so old that present day Polynesians know nothing about it. Tablets written in similar characters have also been found in the upper Indus Valley in India. The pictures show the Easter Island wooden tablet and the similarity between the Indian and Polynesian characters, the Easter Island script having double instead of single lines. These Upper Indus tablets are of recent discovery and certainly show the close relationship of the Polynesians with the Caucasoid people of India.

These Vikings of the Sea besides traveling and settling all over the area of a roughly drawn circle with Tahiti as the center, and extending through Hawaii and New Zealand, also made at least one voyage to the coast of South America and left the sweet potato there as a memento of their visit.

The Polynesians do not know what their original homeland was, although their old chants refer to it as Hawaiki

(Please turn to page 366)

SAVING WAX FROM THE BEE MOTH

By ROY A. GROUT

THERE is no way to know how much beeswax is lost or wasted due to the injury to stored brood and extracting combs, the combs in weak colonies, and to comb honey after removal from the bees. There is little doubt, however, that beekeepers experience a real economic loss each year from the ravages of bee moths. From the beeswax standpoint, this is probably our greatest single source of wax loss or waste. Due to the need for beeswax by the Army, Navy, and Air Force, as well as by Industry, and due to the loss to beekeepers, it is well that more attention be given to the control of these insect pests.

The bee moth which does by far the greatest amount of damage is the greater wax moth, **Galleria mellonella L.** Nearly every beekeeper is acquainted with the appearance of the larval form of this insect. Other insects which may be found doing damage to the combs, according to Dr. V. G. Milum, Gleanings in Bee Culture 1940: 424-428, are the larvae of the bee louse, **Braula coeca** Nitzch, the lesser wax moth, **Achroia grisella** Fabr., the Indian meal moth, **Plodia interpunctella** (Hbn.), the Mediterranean flour moth, **Ephestia keuhniella** Zell., the almond moth, **Ephestia cautella** (Walk.), and the codling moth, **Carpocapsa pomonella L.** Smaller, undernourished forms of the adult of the greater wax moth are often mistaken for the lesser wax moth or other adult forms of the insects listed here.

The greater wax moth is found almost everywhere bees are kept but does its greatest damage in the south because of the long season of activity. The egg is small, white and almost round in shape. They are laid in the cracks about the hive, almost always in the parts farthest away from light. They are difficult to see and may often be overlooked.

The larval stage is the one in which the insect does all of its damage to the combs. On hatching the larval begin to burrow in the combs. Their growth depends upon the quantity and the quality of their food and on the temperature. The young larvae are grayish white and very active. The older larvae are solid, dirty grey in color and range up to 1⅛ inches in length. The pupal cases are usually whitish and are often spun in rows or tiers side by side, the larva first grooving out a shallow place in the wood of the frame or other portion of the hive. The normal adult moth is about ¾ inch in length and has a wing spread of about 1 to 1¼ inches.

Adult of greater wax moth.

The moths are commonly seen with their greyish wings folded over their back in rooflike fashion and when molested they run rapidly before taking wing.

The bees are the most effective natural enemies of the bee moth. When the colony is strong, one need not worry about ravages of combs by bee moth. The bees will kill and carry the larvae out of the hive. Colonies which are not attended properly often become queenless from various reasons, are weakened by lack of stores or by other causes such as poisoning by spray or diseases, are prey for the bee moth. Good beekeepers seldom experience any loss of combs or colonies in this manner.

The loss of combs which most beekeepers experience happens after they have been removed from the bees and stored at a temperature favorable to the development of the wax moth. After the supers have been extracted they should be stacked, all cracks closed, covered top and bottom and fumigated. Combs brought into the honey house from time to time during the working season must be shut up tight and fumigated. Combs of this type must be watched and if it is found necessary, a second fumigation must be given them. It is well to inspect such combs every two or three weeks throughout the summer months.

Combs that have been extracted and brood combs can be successfully fumigated with Paradichlorobenzene ("PDB"). This is a white crystalline substance which evaporates slowly, is not unpleasant to the smell and not injurious to people. The bodies should be stacked tightly and the cracks either covered or stuffed. The chemical should be placed on paper or card board on top of the stack and the cover placed on tightly. Use about 3 ounces for each stack of 5 ten frame bodies. PDB should not be used in the fumigation of comb honey since its odor is absorbed by the honey, this being objectionable in the case of mild flavored honeys.

Other popular methods of fumigation include carbon disulfide and calcium cyanide. Carbon disulfide is a yellowish, somewhat ill-smelling liquid. Since its gas is heavier than air, it must be placed above the combs that are being treated. The principal objection to its use is that it is highly inflammable and the vapor is explosive when mixed with air. It should be used out of doors, away from buildings but if this is not possible it should be used in a well ventilated or open shed. One ounce of liquid is sufficient for a stack of 5 bodies.

Illinois.

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RUBBER FROM DANDELIONS

New varieties of disease resistant seeds, contributed by American Agricultural stations arrived in Moscow by plane. The seeds were flown from New York to the Lenin All-Union Acadamy of Agricultural Sciences, Moscow, whose officials were instrumental in forwarding to America seeds of kok-sagyz, the rubber-bearing dandelion, which provides most of Russia's rubber. United States officials are now studying the possibilities of the rubber-bearing dandelion as a partial solution of the rubber shortage in this country.

Is kok-sagyz also nectar bearing? If so, how far can the farmer be interested in growing the rubber dandelion on the farm? If the acreage of a rubber-bearing and nectar-bearing dandelion is sufficient, it may be a help to beekeeping and give farmers a cash crop. It will be fine, indeed, if part of the rubber we need is grown on the farms from various rubber-bearing plants like kok-sagyz, milkweed, guayule, etc.

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CONTROLLING ROBBERS

In working with bees after the honeyflow, when robbers start to annoy, stop work, place a dummy hive where the robbers are busy, with a tablespoonful of cyanogas in the dummy. In thirty minutes the cyanogas will get the robbers.

A. G. Pastian,
South Dakota.

FOOLISH NOTIONS

By E. S. MILLER

IN reading over a number of the older bee books and some of the newer ones, I find many excellent ideas and valuable suggestions applicable to modern beekeeping. Many of the old notions, however, have not been well-founded and various former manipulations have later been discarded. There are also many present day practices among beekeepers that should be superseded by better methods.

Spreading the brood in the attempt to increase egg laying is no longer practiced by well-informed beemen. The Alexander plan of building up colony strength in the spring by daily feeding small quantities of sugar syrup involves much labor and is of little value. Then there is the more recent practice of selling the honey and buying sugar for winter feed, necessitating extra labor and expense. There is no better or cheaper winter bee food than full combs of honey placed above the brood, preferably a second-story food chamber containing at least 50 or 60 lbs. of honey and pollen.

Probably one of the most foolish notions, and one that seems to be quite prevalent at the present time, is that of thinking that prime swarms can be prevented by picking out queen cells. Where this is practiced the bees will out-smart the beekeepers every time. Even if it were effective, the labor involved renders it not worth while. There are ways in which practically all swarming can be eliminated and it pays to learn the better methods.

Many books on beekeeping state that a good way to requeen is to kill the old queen and introduce a ripe queen cell. Let's consider what actually happens. It is a well-known fact that when a laying queen is removed from a strong colony the bees at once start numerous queen cells. Introducing a ripe cell does not alter the case in the least. The bees start other cells just the same and a few days after the virgin emerges and the new queen cells are well along, she leaves the hive, taking with her a swarm, and the bees proceed to rear a queen from their own stock. Some weeks later, Mr. Beekeeper opens the hive and finds a laying queen and thinks it a wonderful success, but it is not the queen reared from his choice stock, as he imagines. About the only exception to the above is when conditions are not favorable for swarming and that is the time when queen cells are usually not available. After many trials in the last twenty-five years with close observation as to what actually takes place in the hive, it has been fully demonstrated that this is what occurs in more than 90 per cent of the cases where requeening is attempted in the above manner. Even in nuclei, virgins often decamp when larvae are present.

Laying queens should be clipped, not to keep them from swarming, as many suppose, but for the purpose of identification. A record should be kept of the age of each queen, preferably written on the hive or attached to it in some manner. It is advisable to requeen every second year, usually in August or whenever a queen is found to be of poor stock or shows signs of failure. By destroying all swarm cells and rearing queens only from the best non-swarmers available, the stock may be greatly improved. The notion that swarm cells are better than those obtained by grafting has no basis in fact, provided the queen-rearing is properly performed under favorable conditions.

Small hives, as formerly used, are now practically a thing of the past in modern beekeeping. A two-story ten-frame Langstroth is none too large for outside wintering, and in the production of extracted honey, the second story should be kept the year round as a food chamber with an abundance of honey and pollen.

A two-story brood nest, as advocated by some, is not wholly effective as a means of swarm control. In the clover belt, queens should be confined to the lower story at the beginning of fruit bloom and until the close of the fall flow when all excluders must be removed. Demareeing the whole yard before queen cells are started and again three weeks later, eliminates swarms for the season, assuming that one has good stock. In this process all except one frame of brood is raised to the third or top story and the queen confined to the lower story on drawn combs.

In comb honey production, swarming may be prevented by operating as for extracted honey until the beginning of the main flow when the second story food chamber is set down on the bottom board and the bees shaken in front from the brood which is then placed above some weak colony or used in nuclei. It is essential that all of the brood be removed not merely a part of it. Two or more comb supers should be added at this time to the broodless hive.

Foundation should always be drawn out in the second story or food chamber, using full sheets—never in the lower story if one expects good combs drawn entirely down to the bottom bars. Alternating combs with foundation in the brood chamber as a supposed means of swarm control is not good beekeeping practice. All combs not built entirely down or which contain more than five per cent of open space or of drone cells should be discarded or at least kept out of the brood chamber.

Trying to requeen laying workers or, in fact, any colony in which all of the brood has emerged, is unprofitable. Such a colony should be united with a queenright colony by placing the queenless one on the top of the other with a sheet of newspaper between. The old plan of shaking laying workers out in the grass is useless.

Many leading beemen are dispensing with heavy packing and expensive boxing for outside wintering. The trend is toward top ventilation, which tends to eliminate condensation of moisture within the hive. It also provides an exit for the bees in case the entrance becomes closed and is preferable to inside packing which retains moisture. Strong colonies with plenty of food can withstand much cold if kept dry. There is also some advantage in keeping a small top opening throughout the year except at times when there may be danger of robbing. The regular bottom entrance should, of course, be reduced to about ⅝ by 3 inches before cold weather and yard protection in the form of a good windbreak is of prime importance.

Beekeeping methods have been greatly improved in the last 25 years. Every year there is something new to be learned by one who reads, experiments and studies bee behavior, enabling him to omit many needless operations and to work out many short-cuts in manipulation. By so doing, it is possible to more than double colony production and at the same time reduce to less than half the amount of labor required.

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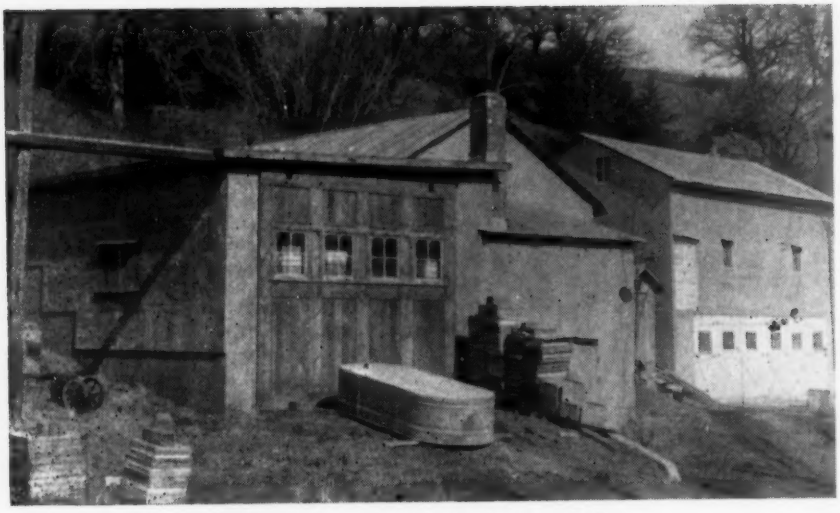
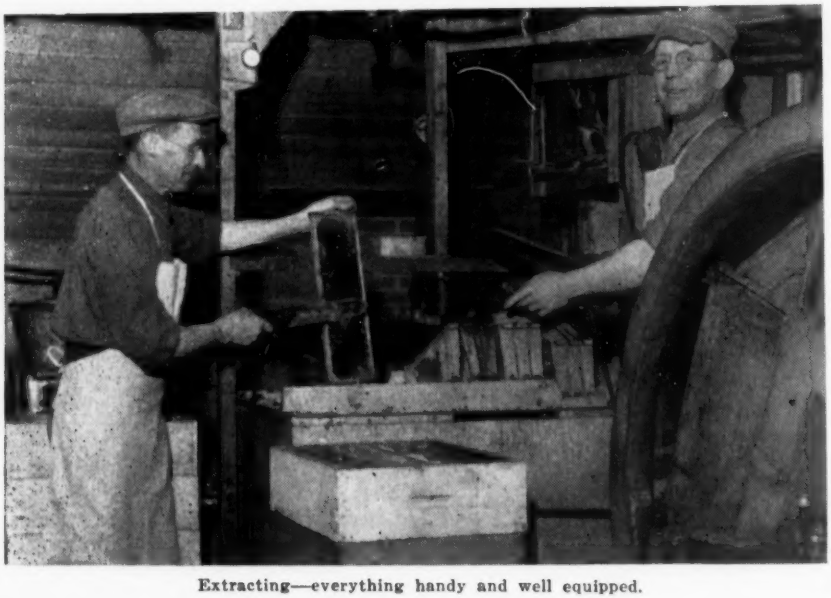
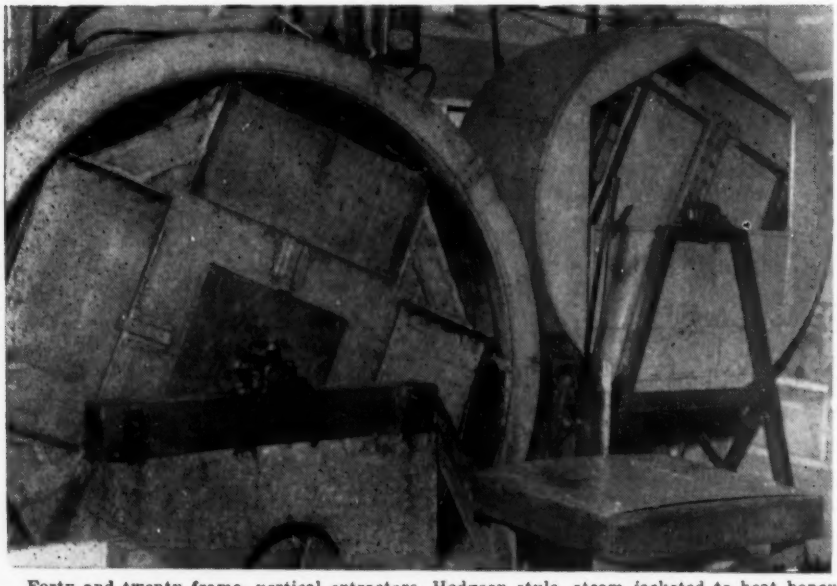
Indiana.



Erickson's home-plant, honey house and shop.



Extracting—everything handy and well equipped.



Forty and twenty frame, vertical extractors, Hodgson style, steam jacketed to heat honey for rapid handling.

Part of a stack of 2700 pounds of beeswax.

ERICKSON MAKES BEES PAY

By C. G. Langley

ONE of Minnesota's beekeepers who has kept on with bees through the lean years when the crop was short and prices low, and who has come to reap his reward, is William B. Erickson, of Red Wing. Mr. Erickson began his career as a commercial honey producer with one colony twenty-three years ago. He set his mind to making a living from the bees early in his career. His advance was immediate and rapid, too rapid for most men. With the long view, he sacrificed honey crop for increase year after year, and only now has he reached the place where he is content to maintain his business with 2,200 colonies in three states and three large extracting plants located conveniently. Last year his crop was 260,000 pounds of honey, more than half of which he did not sell early, but for which he had the advantage of a rising market.

When such a man reaches his goal, however, it is not to take things easy while someone else does the work. His program keeps him busy the year round. When the honey crop is harvested and sold or stored, there is new equipment to be prepared or to be reconditioned. With everything ready for another season by the 15th of March, it is time to load the big trucks and head for Texas where several yards are maintained to raise bees for increase and replace losses.

The two to four comb nuclei or the package bees are hauled back by truck under Erickson's supervision and distributed where needed. Some

seasons he produces a surplus to sell to others.

By the first of May he is back north to unpack bees and get the yards ready. Erickson packs the bees in metal winter cases holding four colonies. He prefers middle entrances for two story colonies and top entrances for those wintered in one story.

In addition to this program, he takes time to plan, invent and superintend the provision of time and labor saving equipment. He made the vertical extractors illustrated here, the larger one holding four 10-frame hive bodies of combs, the smaller one two, somewhat like the Hodgson extractors of Manitoba. They have a hot water jacket all around to warm the honey before it is pumped to a large overhead settling tank where baffle plates and gravity separate the honey and wax. This tank can take care of warm honey as fast as it comes from both extractors. By the time two men can uncap sixty combs for another load, the extractors have run their combs practically dry.

Mr. Erickson has a capping melter which takes care of two skilled uncappers without overheating the honey to impair its color or flavor. By a clever arrangement which controls the honey level only the wax and slumgum are permitted to come in contact with the steam pipes.

Perhaps one reason why the bee business is so interesting and challenging to men of initiative and imagination is that it affords so many chances for these aptitudes to be put to work. The old saying about the world beating a path to the door of the man who can build a better mouse trap in a wilderness is still true. We have too few men in these days of "planned economy" who dare to venture into new fields or attempt new ways. The trouble with some so-called "private enterprise" is that it is not enterprising enough.

The man with initiative and courage can turn the tide of fortune, while his neighbor waits for something to turn up. Let no man say our American way has reached stagnation. It is only man's spirit that stagnates. Opportunity is still to be found by those who search to find it and scratch hard enough after they have found it.

Minnesota.

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THE NEED OF RESEARCH ON BEE POISONING*

By FRANK SHAW

IN his efforts to control the many serious insect pests that he has to overcome, man in some sections is creating a serious problem relating to one of his friends—the honeybee.

Each year more and more chemicals are being applied in attempts to control insects and fungi. New materials are being used constantly. Improved forms of old insecticides and fungicides are being developed all the time. In addition, we are now using airplanes to distribute some of these chemicals. It is no wonder that the problem of bee poisoning is becoming more acute.

It is very evident that there is a great need for research on the effects of insecticides and fungicides on bees. Not only do we lack conclusive data on this subject as regards the newer insecticide but also some of the information regarding the older, so called standard, poisons such as lead arsenate, is not sufficiently complete. In my opinon, the latter is due to the fact that the tests that have been conducted were not carried on over a sufficiently wide variety of conditions.

The newer insecticides such as rotenone, pyrethrum and the thiocyanates are being used more and more. We have little data to indicate what the effects of these materials may be on bees under field conditions. Since some of these substances are being applied from airplanes, thereby causing a drift to plants other than the ones to be protected, it is evident that we should know what the effect of such applications may be on bees.

Another practice which should receive further attention is the application of sulphur to plants during bloom. Our evidence concerning the effects of sulphur on bees is scanty. According to investigations carried on in Canada, the application of sulphur in either dust or liquid form during bloom will cause bees to have severe dysentery. Moreover we lack any detailed information about the effects of sulphur on brood. It is known that small amounts of this material dusted over a frame of brood will cause considerable mortality. It is not known what the effect of sulphur mixed with pollen may be on brood.

There are other lines of investigations that should be carried on in regard to the problem of bee poisoning. Among these might be included the investigation of various types of poison baits, the possible use of repellents, the continued studies of particle sizes of insecticides, the possible development of materials low in toxicity to bees that might control insect pests, the effects of cultural practices as related to poisoning.

The Division of Bee Culture has conducted some excellent work on the subject of bee poisoning. It will be highly regrettable if such investigations cannot be continued and expanded. In order for further research work to be done on this extremely important matter it is necessary that an increase in funds be provided. It is my opinion that beekeepers should contact influential persons and ask them to provide a larger appropriation for research work in the Divsion of Bee Culture. If this can be done, then we will be able to obtain definite information on the extremely important problem of bee poisoning.

Amherst, Massachusetts.

*Contribution from the Department of Entomology, Massachusetts State College, Amherst, Massachusetts.

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UNUSUAL BOOK

Abram R. Houser, of Bellfonte, Pennsylvania, sends a small book of unusual interest, "The Hive and Its Wonders," written in 1851 for the American Sunday School Union, Philadelphia. It tells neatly and in an interesting manner of the life of the bees with much of the poetic vein of Maeterlinck.

"The wondrous faculty which this insect enjoys, to direct its proceedings, is called instinct. It is given to her, and to other insects and inferior creatures, by the Creator of the world. This gift is all the teaching they need. It is their guide in all things and keeps them from mistake."

This quotation from the little book is worth a comment. Although there is frequent dispute about whether animals reason or act entirely from "instinct" it is probably correct to believe that man, above all, has the most advanced reasoning powers. Also he has free will, which no animal has but slightly. He learns through error. Right now he is heaping error upon error and reaping a terrific toll from past mistakes. Yet, his will and reason in the end will lead him close to perfection.

ONE YEAR AND TWO YEAR OLD QUEENS

By ERDMAN BRAUN,
Dominion Experimental Farm,
Brandon, Man.

IN ancient times, before the sexual status of the individuals in the hive had been established, the queen was referred to as the "King" bee. From this appellation may have arisen the general misconception that the queen was the ruler of the hive. The scientists now inform us that "the queen is not the ruler or the 'boss' of the colony. She is, in fact, little more than an egg laying machine subject to the caprices of her daughters. The workers, in the colony which she heads, will treat her with respect and attention, provide her with food, comb her hair and give her a bath, as long as she can and will lay a full quota of eggs for the season; but when she begins to fail, her worker daughters will take one or more of her eggs and proceed to raise a daughter queen, who may eventually supplant her mother as the sole egg laying machine for that particular hive."

Few, if any, beekeepers would minimize the importance or necessity of having a good queen in every hive in the apiary, throughout the entire season. The majority of beekeepers, hobbyists and commercial, are not aware of the qualifications to look for in a desirable queen.

Variation in Queens

Queens of any one particular race or strain vary in size (circumference or length) depending upon the size of the queen cell in which she was reared or the quantity of royal jelly that was made available to her during her larval development. The shading, intensity, or arrangement of the queen's color pattern, being more or less hereditary, is predetermined by the characters transmitted from the parents, grandparents, etc., and she in turn transmits these to her offspring.

Very little information is available on the temperament of a queen, but it is fairly evident that some colonies of bees are very energetic while others may be termed extremely lazy. Some queens are calm and unperturbable while others exhibit fear and attempt to hide when the hive is opened. The bees from a queen of the latter type are termed runners, which frequently boil over the sides of the hives without the least provocation. Some queens have been observed to develop cramps from fright which completely paralyze motion of the body appendages and yet allow the respiratory and circulatory systems to function. Swarming tendencies may be partly hereditary or stimulated by certain methods of management practiced by the beekeepers. Another factor which plays a vital role in the activities of the hive is the egg laying rate of the queen. The virgin queens generally take their mating flight between the fifth and tenth day after emergence from the cell. The general belief among beekeepers is that only one mating or wedding flight is taken. Root, however, contends that more than one such flight may be taken before the queen starts to lay but he doubts whether a queen ever takes a second flight to meet a drone after mating. The storage of the sperm, presumably from one mating, in the spermathecal sac is considered to provide sufficient material for the fertilization of all the eggs the queen may lay in her lifetime. On the European continent recently observations have been made which indicate that queens which have been mated once and over-wintered may go for a second mating flight the following spring. After mating the queen is capable of laying fertilized (queen and worker) and unfertilized (drone) eggs. A young fertilized queen begins by laying a small number of eggs daily, gradually increasing her production until the number may equal 2000 eggs laid every 24 hours during the honeyflow, then gradually diminishing until late fall when egg laying ceases entirely. All queens in an apiary do not necessarily reach a daily egg laying capacity of 2000 eggs. Some queens may never exceed 500 to 1000 and some lay more than 2000 eggs per day. Observations and records indicate that successful mating does not always imply continued fecundity over a long period of time. Some mated queens develop into drone layers in a week, a month or longer after mating. Some queens lay well at the start and then gradually lay less and less eggs per day and finally cease entirely during the honeyflow. The type of egg laying curve which the queen develops determines ultimately the rate at which the colony can build up in the spring, the proportionate number of hive to field bees that will be present in the hive, and indirectly the amount of honey which may be produced during the season. Therefore, the queen's capacity to lay eggs, her temperament, her age, and general deportment are some of the factors which determine the value of a queen to a honey producing beekeeper.

After taking records, every ten days, and roughly estimating the number of frames covered by bees, the number of frames of sealed brood and the number of frames of unsealed brood present in each hive in the apiary at the Dominion Experimental Farm, Brandon, Manitoba, for a period of years, the author came to the conclusion that newly mated to year-old queens appeared to lay less eggs than queens from one—to two—years old. If this contention was correct it should necessarily follow, all other factors being equal, that a colony headed by a young queen should have a much smaller field force than one headed by a two-year old queen at the height of the honeyflow and, consequently, the former colony should not be able to gather as much nectar as the latter.

Many beekeepers, however, would not agree with the above contention, arguing that colonies headed by young queens (a year old or less) produced as much honey as those colonies headed by two-year old queens. This theory was expounded particularly by the beekeepers who favored annual importations of package bees instead of overwintering their colonies. Brood counts, by a detailed technical process, could have been utilized to determine the egg-laying capacity of young versus two-year old queens. This method would have entailed considerable expense, would have limited the number of colonies which could have been included in the experiment, and would not necessarily determine the amount of honey

gathered by the particular colonies under study. Record taking began in the fall of 1934 and continued until the fall of 1941, excluding the years 1939 and 1940 when disease disrupted the experimental work, for the purpose of determining the honey produced from individual colonies headed by young (less than one year) and two-year old queens. Only colonies in which the queen headed the same colony for two seasons were included in the study. Thus it was possible to determine the honey production from the progeny of the same queen during her first and second year of egg-laying. Records were obtained from 357 colonies, varying from 26 to 49 colonies per year in each group during the five-year period.

Production records from individual colonies show much variation but group average productions indicate that when comparisons are made between the amount of honey gathered by colonies with young queens for one season and then for the same colony with a two-year old queen the next season, very little difference can be observed in favor of one or the other of the age groups. This result might lead one to conclude that theoretical assumptions do not always work out in actual practice. However, it is common knowledge among beekeepers that honey production in any given area never remains uniform from year to year; therefore, it was considered advisable to compare colonies headed by young queens in one group with colonies headed by two-year old queens in a second group during the same production season.

The following data from the 1941 season provide some interesting comparisons:

One-Year Old Queens

30—1941 package colonies produced 4972.5 lbs. or an average 165.75 lbs.

25—1941 package colonies produced 4305.0 lbs. or an average 172.00 lbs. (not including the five colonies which lost their queens on introduction).

36—Colonies (omitting those in which a second queen was introduced) produced 6117.5 lbs. or an average 169.93 lbs.

41—Colonies (including five colonies where second queens were introduced) produced 6785.0 lbs. or an avearge 165.49 lbs.

5—Colonies (first queen lost and a second introduction required) produced 667.5 lbs. or an average of 133.50 lbs.

8—Over-wintered colonies with fall (1940) introduced queens produced 2008.0 lbs. or an average of 251.00 lbs.

6—Over-wintered colonies with spring (1941) introduced queens produced 969.0 lbs. or an average 161.50 lbs.

49—Colonies (all included) produced 8793.0 lbs. or an average 179.45 lbs.

Two-Year Old Queens

37—Over-wintered colonies produced 7333.0 lbs. or an average of 198.19 lbs.

1—Over-wintered colonies with a three-year old queen produced 338.0 lbs. or an average of 338.00 lbs.

38—Over-wintered colonies produced 7671.0 lbs. or an average of 201.87 lbs.

32—Over-wintered colonies (packages in 1940) produced 6514.5 lbs. or an average of 203.58 lbs.

The difference in production of approximately seven pounds per package colony, on the average, due to loss of queens on introduction may not be of much concern to the small beekeeper but to a commercial beekeeper it would be worthy of serious consideration. The main factor, however, which sticks out like a sore thumb, is the 89.5 pounds average difference in production between eight over-wintered colonies with fall (1940) introduced queens and the six over-wintered colonies with spring (1941) introduced queens. These fourteen colonies were practically uniform in spring strength. The three-year old queen need not have been mentioned in these comparisons but her historical background is worthy of mention. This queen was introduced to a package colony on May 6, 1939, came through the winter with a strong colony and produced well throughout the season of 1940. Normally this queen would have been replaced in August or September, 1940, but certain qualities of her offspring attracted attention and thus the queen was selected as a breeder. In the spring of 1941 this queen and 200 workers were all that survived the winter. Another colony being queenless in the apiary, this breeder queen was introduced mainly to save the queen and the queenless colony. However, careful observation showed that there were no signs of failing in this queen so she was allowed to head the colony all summer and she was superseded on August 5, 1941. Another item of interest is the production comparison between the 32 over-wintered package colonies (1940) with 203.58 pounds as compared to the 30 package colonies (1941) which produced 165.75 lbs.

The above table indicates that in not one year out of five, for which data are given, did the one-year old queens exceed the two-year old queens in average production. The differences annually in favor of the two-year old queens varied, on the average, from 3.66 to 81.60 pounds per colony. Over the five-year period, the one-year old queens produced an average of 170.79 pounds as compared to 189.42 pounds produced by the two-year old queens. The difference of 18.63 pounds, on the average, does not seem very large, but when honey is valued at 7 cents per pound, a monetary value of $1.30 is obtained. On the basis of one hundred colonies this would amount to an increased return of $130.00 annually.

Experience in apiary manipulation soon demonstrated that it was not practical to requeen all of the colonies every second year because the labor output, total honey production, and financial returns fluctuated tremendously every other year. Requeening half of the colonies in the apiary in the fall of each year and keeping the other half supplied with year-old queens, gave the best financial returns, distributed labor out-put more evenly, and provided a more uniform annual crop of honey. The vagaries of the Manitoba honeyflow necessitate that the beekeeper be fully prepared each year so that the bees may garner whatever nectar is available.

Summary

1. The queen honeybee is little more than an egg laying machine but as such her ability to successfully fulfill her functions determines the ultimate success or failure of the colony as a honey producing unit.

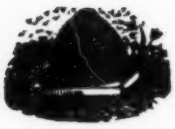
2. Queens vary in size, shape, color, temperament, industry, and swarming tendencies.

3. Casual observations that young queens laid less eggs daily than two-years old queens substantiated by five years of experimental data.

4. Requeening half the apiary each year is more profitable than requeening the entire apiary every second year.

Five-Year Summary Table

Year	One-Year Old Queens			Two-Year Old Queens		
	Number of queens in colonies	Total honey production of colonies	Average per colony production	Number of queens in colonies	Total honey production of colonies	Average per colony production
1935	26	2,450.75	94.26	33	3,735.75	113.20
1936	39	10,165.75	260.66	26	6,872.50	264.32
1937	33	3,807.00	115.36	39	5,639.50	144.60
1938	42	7,063.25	168.17	33	8,242.50	249.77
1941	49	8,793.00	179.45	37	7,333.00	198.19
5-Year Total	189	32,279.75	170.79	168	31,823.25	189.42



EDITORIAL

HONEY RESISTANCE AND HONEY GATHERING

DOUBT has been expressed in some quarters as to the value of disease resistant bees for honey gathering. In our experimental apiaries we have found resistance in bees of several races. Some have been gentle and some cross. Some have been good honey gatherers and some not so good. In fact it appears that disease resistance may be combined with almost any quality.

The best strain of bees for honey gathering that we have ever handled are also among the most resistant. From one of the colonies still on the same combs in which they were given the test in 1935 we have taken large crops of honey. Our record book shows that from No. 18 a total of 563 pounds of honey was removed in 1940 and 311 in 1941. This colony also is among those with the largest crop in 1942, although it has not been removed at this writing. If this colony has ever swarmed it has escaped our notice and is not recorded in our notes. Disease resistance, non-swarming and honey gathering appear to be combined in this particular colony to a high degree.

It must be admitted, however, that the colony is of uncertain parentage, although Italian characteristics are apparent. The offspring of the queen heading this colony are not uniform. Colonies headed by daughter queens vary greatly in color, temper and ability to resist disease. Enough of them carry a desirable inheritance to indicate that eventually it will be possible to develop a strain of bees which are highly resistant to disease and at the same time are gentle, good honey gatherers and evenly marked in color. Results thus far have been fully up to expectations.

♦

HONEY NOT MANUFACTURED

TO classify honey as a manufactured product because it is removed from the comb with a machine is absurd. Who would think of wheat as manufactured because it is separated from the straw by machinery, or corn as manufactured when it is shelled from the cob in similar manner? Cream is separated from the milk by the identical process by which honey is taken from the comb. There is no change in the product itself. To classify honey as manufactured because it is taken from the comb by means of the extractor, indicates that those responsible for the ruling are uninformed as to the actual facts or are making an arbitrary exception in the case of our product.

We do not wish to criticize the effort to obtain reasonable control and believe that an honest effort is being made to attain that end. We do object to having the beekeeper singled out for different treatment than all other food producers receive.

♦

SWEET CLOVER IN DANGER

SWEET clover which was brought into general cultivation as a soil building agent with the first World War brought a revolution to the honey producing industry. It is in the sweet clover area that most of the really big outfits are located. Many of these number their colonies by thousands and measure the output in carloads.

No longer can a serious threat to the sweet clover crop be ignored. Recently a release from the University of Illinois reported the destruction of thousands of acres of sweet clover in northern Illinois by the sweet clover weevil. The insect was first reported in Illinois in 1940 and became abundant in some localities in 1941. Already the damage has reached serious proportions and in some localities recommendations are made to abandon sweet clover in favor of some other legume. When this happens the honey producers who have depended upon this crop face a serious situation.

Disquieting reports of the appearance of the sweet clover weevil in many new localities are coming in. This season it is reported as present in Iowa and North Dakota and it has been reported from some of the important sweet clover districts of western Canada.

Just what the coming of this new pest may mean to the honey producing industry cannot, as yet, be foretold. Search is on for methods of effective control and resistant strains of sweet

clover are also being sought. It may well be that the danger will pass without serious effects except in limited areas. Again it may prove so serious as to discourage farmers from growing the crop and compel beemen to seek new pastures.

♦

WHAT MAKES A CROP?

THERE is an element of mystery in the factors that control the honeyflow. At our Atlantic apiary for several years we have kept a daily record of the gain or loss of a colony on scales together with temperature, rainfall, wind direction, etc.

When we try to decide what conditions favor a big yield we find it hard to do. A big gain one season may be gathered with weather that brings small return the next year. The years of 1940 and 1941 brought big crops of sweet clover honey. In 1940 the colony on scales gathered more than 100 pounds of surplus in late July, while in 1941 the crop was nearly all over before that time.

Most of the big gains are recorded at moderate temperature, yet we find days when heavy yields are gathered at relatively low temperatures and others when the thermometer registers uncomfortably high.

When a sufficient volume of records are available covering a long period of time, it may be possible to find the answer and we may be able to tell in advance what kind of crop can be expected under certain environmental conditions. In the meantime, we will continue to look forward hopefully to the crop that may not be realized and to the occasional surprise yield that comes unexpectedly.

♦

WHEN MANAGEMENT WAS EASY

THE Apiarian Society established at Exeter, England, in 1799, assumed for itself the honor of being the first establishment of the kind in the known world. The society published a little book of instructions to enable the beekeeper to divide his stocks and take a portion of the honey and wax without destroying the bees.

The Moreton hive which was recommended was described as follows:

> "The Moreton-Hive is made of reed, stitched with the splits of willow or bramble: it is a cylinder, the diameter of which is twelve inches in the clear, and the height seven inches: it is best when made upon a narrow hoop, with wimble-bit holes in it, to receive stitches of the first lift or round of reed, and a mortise-hole in the fore part for entrance, two inches and a half in horizontal length, by one quarter inch in perpendicular height: this entrance should be near a quarter of an inch above the lower edge of the hoop, which edge should be planed, so as, in every part, to touch a plain board."

The system of management was as simple as the hive. It consisted in cutting out a portion of the honey with the caution that the weight exclusive of the hive should never be reduced below eighteen pounds. It was estimated that the bees would require one pound of honey per month to provide for their needs from October to March and two pounds per month from March until the end of May.

One has only to read the books of that time to realize how far we have come in the science of bee management and how new commercial honey production as now practiced really is.

♦

MIDWEST MOISTURE

SPRING brought an ample supply of moisture to the Midwest during the early months this year. Much of the area is nearer normal than it has been for ten years past. The years of drought took a terrible toll of trees and uncounted thousands of them died for lack of water. Many years will be necessary to replace the trees that disappeared during this period.

Nature has wonderful recuperative ability and the scars of any disaster to the land are healed quickly. Where groves have been injured by dry weather, the trees that are left are making vigorous new growth and young trees are coming on to fill the gaps caused by removal of older ones. It is unfortunate that too many farmers cut down the dead and dying trees and make no attempt to replace them. Thus many groves have disappeared permanently to the great loss of the community.

How completely we depend upon the weather and how little we can do to modify its action. Although we could not provide the rain, we can at least plant more trees to replace those that were lost.

White Dutch clover has reappeared over large areas where it had all but disappeared during the dry seasons. Perhaps we may see again a series of years when white Dutch clover will produce good crops of honey. This plant, so long the main dependence, failed us entirely during the long drought and had it not been for sweet clover, little honey could have been produced in this region.

OUTLOOK FOR HONEY

The size of the 1942 crop of honey is becoming increasingly problematical. The problem would be solved in most areas if the bees could be assured of a period of warm, dry weather during the remainder of the time that major honey plants are in bloom. Nectar-bearing plants in general are in excellent condition and because of the abundance of rainfall they will continue in bloom longer than normal. But unless bees have weather suitable for gathering nectar the crop will be very much curtailed. So far abnormally wet, cool, cloudy weather has prevailed most of the time for many weeks in the clover, sweet clover and intermountain areas, and in fact west to the coast. The story of the season to date in the main honey areas has been one of unfavorable weather which has restricted bee activities and has resulted in the feeding of thousands of tons of sugar. Some feeding has been necessary even during the past two-week period in portions of the upper tier of states. Occasional bee keepers in Iowa, Nebraska, Indiana, Kentucky, and a few other states in the main honey territory, report good honey yields already, and beekeepers in many southern states also have taken off good crops of honey. Yields in the South are extremely spotted, however, and further crop prospects in that area are also widely variable Crop possibilities in California are still mostly in the future, and in the Northwest any surplus so far taken off is principally restricted to occasional colonies. Wintered over colonies are in much better shape generally than colonies from package bees, because of the late shipment of packages. Although continued, wet, cool weather is causing heavy feeding of bees in Canada, beekeepers in that Dominion are looking forward to the largest crop on record.

Stocks of honey from the 1941 crop in beekeepers' hands have reached very low levels. Occasional beekeepers still have enough honey to take care of the calls from their customers, but most beekeepers are completely sold out. Demand from bakers is reported decreasing in many areas because of current price levels. Apparently many bakers are turning to mixtures of molasses, corn sirup and honey, or other less expensive substitutes for honey. Retail demand is reported excellent in most sections of the country. Prices of honey range widely in different sections of the country. Most packers, wholesalers and retailers were selling in March on an inventory rather than a replacement basis, and had not advanced their buying prices to the levels which beekeepers were securing during March, but some dealers had advanced their price levels enough to explain some of the wide ranges. (July 1—Honey Report, U. S. D. A.)

♦

UNFAVORABLE REPORT FROM COLORADO

We had one of the worst hail storms last Sunday this valley has ever seen. A portion of the territory has been completely ruined as far as a honey crop is concerned. The prospects looked good earlier in the season, but weather conditions have been bad. Many colonies are at the point of starvation and will have to be moved to better locations.

O. E. Adcock,
Rocky Ford, Colo.
(6-26-42)

♦

NEW YORK (July)

We have had plenty of rain and bees are in good condition, but swarming badly where not given proper care. Clover is very scarce. Alfalfa is good but being cut before it blooms.

The honey situation is bad because too much poor honey, originally sold to take the place of sugar, is returning to the market at a low figure, even being offered for the table market.

John De Muth,
New York.

♦

"BARNEY GOOGLE"

I was chief clerk in the yard office of a railroad terminal in Iowa. A large swarm of bees settled on a bush near one of the switching tracks and I hived them in an empty box which I carried home that night, transferring them to a movable frame hive.

We had a car checker, working nights, nicknamed "Barney Google." It is generally conceded that there must be something wrong with a man who will harbor or work with bees. I never came into the office that "Barney Google" did not make some inquiry about the bees. "How many times did you get stung today?" and so on, until the questions grew tiresome.

One day I noted an unusual number of drones in front of one of the hives. Placing a drone trap at the entrance, I collected about half a pint and put them in a paper sack, closed with a rubber band. When "Mr. Google" went out to his midnight lunch I placed the sack in his desk. On returning he noted the sack and removed the band. The bees made a rush for the lights and "Barney," thinking his time had come, flew out the door with a shriek. "Mr. Google" still wears his large shell glasses but makes no further remarks about the bees.

A. B. Silliman,
Iowa.

♦

E. E. ELLIS

We learn that E. E. Ellis, Caro, Michigan, recently passed on. He "worked bees," as he put it once, in numerous western states, spending considerable time in California, Arizona, and in Central America. He came to Michigan from northern Florida, and was well pleased with his Michigan location. I think he sold out to N. E. Miller when he left California. He was an outstanding character and a straight shooter.

A. G. Woodman,
Michigan.

♦

EFFECT OF HONEY

This is an experience I had a year ago. I was cutting weeds along a row of grapes and, by accident, I slightly cut one of the vines about a foot from the ground. The bunches of grapes had already begun to make their appearance. I thought the cut would damage the growth so I thought to put some comb honey into the cut and also spread some extracted honey on a rag, binding the cut with it and taping it good.

Then I carefully watched the result. There were never nicer bunches of grapes and, to my notion, the grapes were sweeter than the others on the same stock. I would like to know from those who have studied plant stimulation if such an effect is at all possible.

H. E. Wittmer,
Iowa.

♦

COMB HONEY—CAN YOU BEAT IT?

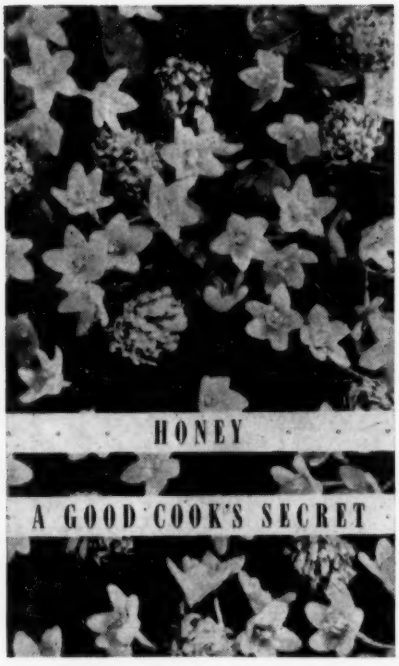
I am much interested in the articles on comb honey by Carl Killion. I have produced comb honey for twenty years and, for eight years, my average, for each colony, May first count, has been 200 sections.

Henry Owen,
Indiana.

DEPARTMENTS

—Photo by John C. Allen, Indiana.

SWEET WILLIAMS IN THE WOODS IN TIPPECANOE COUNTY, INDIANA



The following recipes are from the above Cook Book which is put out by The John G. Paton Co., of New York City.

Old-Fashioned Tomato Honey Preserves

4 lbs. ripe tomatoes
2 lemons
¼ teaspoon allspice
2 cups (Golden Blossom) Honey
½ cup lemon juice
2 cups sugar
1 inch stick cinnamon

Scald and skin the tomatoes. Slice the lemons quite thin (do not remove rind). Add remaining ingredients—cook slowly over low heat, 1 to 2 hours until thick and clear. Makes 5 glasses. (Yellow tomatoes make beautiful preserves).

♦

Golden Plum Butter
(A winter treat)

Put well cooked green gages, drained of all liquid, (canned may be used in winter-time) through a colander. To each cup of pulp add ½ cup (Golden Blossom) Honey. Cook slowly until thick and clear.

Note: Blue plums, particularly the damson plums, may be used in the same way.

♦

Mock Orange Marmalade

2 cups grated raw carrots
1 orange, ground fine
Juice of 2 lemons
Grated rind 1 lemon
1 cup sugar
½ cup (Golden Blossom) honey

Cook together slowly in heavy kettle, over low heat, until thick and clear. Stir frequently to prevent sticking. Pour into sterilized glasses. Cover with paraffin. Seal. Makes 4-5 glasses.

RECIPES FOR AUGUST

PORCH PICNICS

Enjoy your own porch and yard this summer—have home picnics and keep the family happy! Here are delicious hot biscuits to serve, and some special "tricks" that almost make a whole menu out of one recipe. Just watch everybody tackle those Whole Wheat Coconut Honeys that take **no Sugar!** Hot or cold, they're Honeys.

Baking Powder Biscuits

2 cups sifted flour
3 teaspoons baking powder
¾ teaspoon salt
5 tablespoons Spry
2/3 cup milk (about)

Sift flour with baking powder and salt. Cut in Spry fine. Add milk, mixing to a soft dough. Knead lightly 20 seconds. Roll to ½-inch thickness. Cut with biscuit cutter and place on baking sheet.

Bake in very hot oven (450° F.) 12 minutes. Serve hot with honey or jelly for lunch or supper. Makes 1 dozen biscuits.

Deviled Ham Rolls

Roll dough ¼ inch thick, spread with deviled ham, sprinkle with chopped parsley, and roll. Cut in 1 inch pieces; place in Sprycoated muffin pans, and bake in hot oven (425° F.) 15 to 20 minutes. Delicious with potato salad.

Whole Wheat Coconut Honeys

Use Baking Powder Biscuits recipe, substituting ½ cup whole wheat flour for ½ cup white flour. Roll dough into rectangle ¼ inch thick. Spread ½ of the following mixture on dough and remaining half in Sprycoated 8x8 inch pan: 3 tablespoons Spry, 2 tablespoons butter, 2/3 cup honey, 2/3 cup coconut. Roll like jelly roll and cut in 1 inch slices. Arrange in pan, cut side down. Bake in hot oven (425° F.) 30 to 35 minutes. Turn out immediately. Makes 1 dozen. (Lever Bros. Co., Cambridge, Mass.)

AMERICAN HONEY INSTITUTE

War time is no time to waste time!

♦

A letter from the War Production Board in Washington asks that we cooperate in the Fat Salvage Campaign now going on. More than two billion pounds of fats are wasted in the kitchen each year. These fats are a source of explosives now vitally needed for the armed forces. There is also great need among our allies for fats and oils. Following are a few simple rules we have been asked to announce.

(a) The housewife should save "pan drippings." The grease should be strained and all meat scraps and foreign matter should be removed.

(b) The grease should be kept in a cool place—preferably an ice box or refrigerator—and the can should be covered in order to prevent objectionable odors.

(c) The fats should be placed in clean metal containers. Narrow necked containers and cans with jagged edges should be avoided. A vegetable shortening can is ideal. Under no circumstances should glass containers be used.

(d) The housewife should return the grease herself to her local meat market. There it will be weighed and she will be paid for it. It is urged that fats be returned during the first days of the week in order to relieve the butchers as much as possible during the weekend rush.

It is to be hoped that every honey producer will get solidly back of this campaign and support it to the utmost extent.

♦

On July 1st the postal rates on books were increased from 1½ cents to 3 cents per pound.

♦

Nature is doing a beautiful piece of work in sweetening beverages being used throughout the country this summer. With a shortage of tea and coffee, fruit juices sweetened with honey are the favorites.

♦

On June 25 the Director of the American Honey Institute broadcast over Station WEEI at Boston; on June 30, over WHA-WLBL, Madison, on the use of honey in canning and preserving; and on July 13, on news of the honey crop.

The Sugar Rationing Board of the Office of Price Administration, Washington, D. C., requested copies of the Institute's leaflet entitled "Use Honey in Canning and Preserving" to post in their local boards for the information of the public.

♦

The July 25th issue of Collier's has an article entitled "Nectar Unrationed."

♦

50,000 copies of the leaflet "Use Honey in Canning and Preserving," were distributed throughout the country in three weeks.

♦

Rumford Chemical Works has produced an attractive leaflet of sugarless recipes. The cover design is a picture of the sugar can padlocked for the duration. A special Rumford honey cake is among the good recipes. The heading, in italics, reads,

"Any nutrition expert will tell you about honey's qualifications as a pure natural sweetening — and find out that it helps a cake stay fresh longer!"

♦

National Nutrition Month, sponsored by the Super Markets of America, will be celebrated November 1 to 30, 1942. National Honey Week, the last week in October, should give this month an excellent start. One of the suggestions given in the July issue of Super Market Merchandising is to print this dessert on a placard, "Pears Baked in Honey." It suggests that canned or fresh pears, or both, and a jar of honey should be tied in for display. A recipe for Honey Baked Pears will be found on Page 26, "Old Favorite Honey Recipes."

♦

Are you acquainted with "Citrus Leaves?" The July issue of this magazine has a recipe for Pure Gold Orange Ice Cream. This recipe calls for 1 cup honey.

♦

Following are extracts from letters received in Institute office:

"We have your leaflets, 'Use Honey for Canning and Preserving' and 'Honey the Clock Around,' and feel that they would be very helpful in our Red Cross Nutrition classes. We would appreciate very much your sending us at least 200 each of these leaflets, if it is at all possible. Also, kindly advise us if the

teachers might obtain these for their classes by individual request. Thank you very much for your kind cooperation."

♦

"Would you like to have me offer your two little leaflets, 'Honey for Canning and Preserving' and 'Honey the Clock Around,' on my two radio programs? If I do this, I will have to send the requests directly to you to be mailed as I have no budget to handle mailing and no clerical staff to take care of requests of this sort, but I would be glad to do this if you would like to have me. Incidentally I am very much impressed with both of them."

♦

"Is it possible to obtain 'Use Honey for Canning and Preserving' and 'Honey the Clock Around' in large quantities? I have in mind using them for general distribution at our Nutrition Center. If they are available, will you please quote prices on quantities of 5,000."

♦

"Thank you for sending us copies of your timely new leaflets on the use of honey. Would it be possible for us to have fifty additional copies of the one giving recipes and tables for using honey in canning and preserving? This leaflet would be very useful to our readers who write for more recipes for sugarless canning."

MEETINGS AND EVENTS

Pennsylvania State Beekeepers' Picnic and Field Day
August 15, 1942

Valley Forge Park, State Highways 363 and 23, Montgomery County
Morning, 9:30-12:00

Presiding—Prof. E. B. Everitt, Allentown.

Registration and Acquaintance Hour—9:30-10:30.

Address of Welcome—Paul G. Cummins, President of Montgomery County Association.

Response.

Apiary Location and Management—Robert S. Filmer, Associate Entomologist, Agricultural Experiment Station, New Jersey.

Topic—M. J. Deyell, Editor, Gleanings in Bee Culture, Medina, Ohio.

History of Valley Forge—Speaker will be supplied by Montgomery County Association.

Some Timely Remarks—Edwin J. Anderson, Extension Apiarist, State College.

Greetings from visitors.

Basket Lunch 12:00—1:30

Light refreshments will be supplied by Montgomery County Association.

Afternoon 1:30-3:30

E. J. Anderson, Extension Apiarist, State College, will have charge of the games and contests. The prizes awarded winners are the contributions from supply dealers and manufacturers, advertisers in the Pennsylvania Beekeeper.

After the recreation there will be opportunity for sight seeing in the park.

Honey Cooking Contest — Miss Ethel M. Beadles, Home Economics Director of Montgomery County.

Bring your bee smoker. Bring the whole family, your lunch, and your beekeeper friends. The afternoon will be given over to recreation and fun. There may be a ball game for those who do not go sight-seeing.

♦

WOI Programs Begin September 14

In the Iowa Beekeepers' Bulletin for July, it is announced that the WOI programs are to begin September 14 at 6:45 A. M. The fall series of radio discussions for honey producers will come in the Farm Facts Hour.

Mark this date, September 14, on your calendar for the period of 7 minutes each Monday morning. Any producer may aid in the discussion by suggesting a topic worthwhile to beekeepers in Iowa. If you have suggestions, send them to F. B. Paddock, Iowa State College, Ames.

♦

Middlesex County Association (Mass.) Lexington, August 29

The Middlesex County Beekeepers' Association will gather on Saturday, August 29 at 2:00 P. M. at the home apiary of Mr. and Mrs. Frank O. Nelson, 179 Woburn St., Lexington, Massachusetts.

An old time beekeeper will speak on "Fifty Years Among the Silver Wings." Each family should bring it own basket picnic supper with cups, spoons and plates. Ice cream will be supplied. Hives will be opened and beginners' questions answered.

A. M. Southwick, President.

♦

New Rochelle Beekeepers' Association

Until further notice the meetings of the New Rochelle Beekeepers' Association will be held the first Sunday in each month.

Dr. Donald Watt, Sec'y.,
3 Boulevard,
New Rochelle, N. Y.

♦

Kansas Association, Iola, August 9

The annual meeting and outdoor picnic of the Kansas State Beekeepers' Association will be held at the City Park at Iola, Kansas, Sunday, August 9. Bring your basket and also your friends.

A good program is being prepared.

O. A. Keene, President,
W. N. Cline, Sec.-Treas.

♦

Fond Du Lac Meeting

On Sunday, June 28, Fond du Lac County (Wisconsin) beekeepers gathered at the farm and apiary of Peter Thelen to enjoy a picnic dinner and an afternoon filled with fun and information.

John F. Long, of the Bee and Honey Section, Dept. of Agriculture and Markets, was the visiting guest speaker. In his talk, he briefly outlined to the beekeepers the changes in the honey industry since the beginning of the war. He strongly urged beekeepers to manage their colonies efficiently in order to secure the maximum production. According to Mr. Long, the state honey crop will fall far short of the 1941 production. Unfavorable weather during the clover blooming period is the principal factor involved.

About mid-afternoon, one of the host's big colonies cast a swarm. Everyone's attention turned to the clustered bees. Inexperienced beekeepers present watched with keen interest while A. J. Schultz, commercial producer, demonstrated the hiving of a swarm and the subsequent manipulation of the parent colony.

Before all left for home, a smoker contest was held. Deputy Apiary Insepctor Fred E. Schmidt was the winning contestant. He was awarded a new smoker.

Everyone present considered the picnic an outstanding occasion. All returned home resolved to produce more and better honey, to save their wax and otherwise help in winning this war.

Joe Mills, Sec'y.,
Ripon, Wisconsin.

♦

Delay Hay for Honey

George Poulter, county bee inspector, under direction of the state department of agriculture, made an urgent appeal to all farmers of the county who have hay, to extend the second and third periods of cutting for a period of ten days.

The government has made an appeal to every honey producer in the country to produce all the honey he is capable of producing to alleviate the present sugar shortage. Although the hay makes better feed if cut just before it starts to bloom, under the present critical conditions it is believed that the honey obtained from these few days of extra bloom would offset any loss of hay of feeding value.

In the course of ten days this would mean an extra production of $15,000 to $25,000 worth of honey in this country alone besides the relief it would avail to the sugar shortage.

Under the existing war conditions, it is believed that all persons concerned will pitch in and cooperate to do what little else he can for the food problem of the nation.

Glen Perrins,
Utah.

♦

Bronx County Association (N. Y.), Bronx, August 9

The Bronx County Beekeepers Association will hold their regular monthly meeting at the home of H. E. Egleton, 1501 Bronx River Avenue, Bronx, N. Y. C., Sunday, August 9, at 2:30 P. M. Come and see what can be done with a three pound package of bees in one year. All interested

in beekeeping will be cordially welcomed. Refreshments will be served.

Harry Newman, Secretary.

♦

Empire State Association (N. Y.) August 15

The summer meeting of the Empire State Honey Producers Association will be held at Syracuse in Elmwood Park on Saturday, August 15. It will not only give New York beekeepers a chance to renew old acquaintances, but also to learn about special problems coming from the war situation.

The afternoon program has been planned to review government "General Preference Order" and "General Maximum Price Regulation."

The meeting is in the central part of the state for the convenience of everyone. Come, bring a picnic lunch and have a good time.

Burel H. Lane,
President.

♦

Ohio-Michigan Summer Meeting, Medina, Ohio, August 6-7

The two-day meeting scheduled on August 6 and 7 at the factory of the A. I. Root Company, Medina, Ohio, will be "crammed full" of educational talks, entertainment, and social activities.

The program for August 6 will be built largely around the small beekeepers' problems, while the second day will cover national war aspects of the industry.

Leading beekeepers from Michigan and Ohio as well as many other beekeeping authorities will be scheduled to assure a "bang up" program for all.

Don't forget the **Beekeepers' Banquet** scheduled on the evening of the first day, as this will be one of the high lights of the meeting.

W. E. Dunham, Sec'y.

♦

Lorain County (Ohio) Amherst, August 13

The Lorain County Beekeepers Association will meet in Amherst, Ohio at the home of Mr. and Mrs. O. Van Haun on Thursday evening, August 13 at 8 o'clock.

Geo. E. Yost,
Secretary-Treasurer.

♦

Vermont Annual Meeting, Cornwall, August 22

The annual Vermont beekeepers' meeting will be held Saturday, August 22, at the extracting plant and home of F. D. Manchester, Cornwall, four miles south of Middlebury on Route 30.

In the afternoon, the meeting will be at the extracting plant of Charles Mraz in the village of Middlebury. The meeting starts at 10:00 A. M. war time, at Mr. Manchester's.

The meeting will be of special interest to beginners. For those who travel by bus or train, a car will meet them at the station at Middlebury. Everybody is invited. Prizes of queen bees will be awarded. Remember to bring the family and lunches.

Charles Mraz,
Secretary-Treasurer.

♦

VARIABILITY

Progeny from 15 breeder queens, representing 6 lines of stock, that were tested for honey production showed greater variability among lines of stock than among individuals within a single line. Average yields for the test groups ranged from 8 to 318 pounds. Differences were also found in the amount of brood produced, the percentage of queens superseded, and the strength of the surviving populations at the close of the active season. Lines of stock showing either high or low performance in one season held their same relative position during succeeding years.

(Report of the Chief of the Bureau of Entomology and Plant Quarantine, 1941, United States Department of Agriculture.)

♦

A HOT ROOM FOR THE REMOVAL OF MOISTURE FROM HONEY

(Continued from page 344)

the floor with grilles facing outward and a return circulating air duct connected with the fan intake would suffice for the circulation of the air. Vents in the roof, or ceiling, and an optional outside air intake connected with the fan permit the exhausting of moisture laden air and the bringing in of fresh air from the outside. A number of small 8 inch disc fans placed along the opposite upper corner from the distribution duct would need to be used to muddle the air and prevent uneven drying. The supers should be staggered in

piles set up a few inches from the floor. It should be kept in mind that there will be little evaporation from the honey if the relative humidity is over 50 per cent no matter how much air is passing, so that this is the factor which determines how much air can be recirculated.

The type of fan, variously named centrifugal blower, turbine fan, and special trade names, is determined by the amount of air that is to be circulated and the ducts through which the air is to pass. The style which would be used according to the plan is "clockwise bottom horizontal" designating the direction of rotation and discharge. These factors, however, will be determined by the company from which purchase is made, depending upon the beekeeper's requirements.

The plan for the hot room illustrated is for a lean-to. In adapting a room or section of the honey house for the removal of moisture from honey in the supers, the same principles of design will hold.

Until the war is over honey will continue to increase in demand for table consumption. It is up to the producer to put up a first class product in order to insure consumer preference when other sweets become available again. The use of a hot room will enable the beekeeper to produce honey of high quality that will continue to pay him dividends in customer demand and in dollars and cents.

♦

TAHITI IN 1942

(Continued from page 351)

which, they say, lies far to the West. They are, like ourselves, Caucasoids, having come from India or from some land now submerged below the waters of the vast Pacific Ocean.

In some islands, as in Bali, they have acquired Malay characteristics and civilization, or else have left Polynesian characteristics among the Malays. In some other islands they have mingled with the prehistoric Negroids. In temperate New Zealand, which was peopled from Tahiti within historic time, the mightiest Polynesian race, the Maoris, developed. They know the names of the great double canoes in which their ancestors came to New Zealand, just as some of us know that our ancestors came over in the Mayflower.

There is, perhaps, no race in all the world whose history is more interesting or more mystifying. Apparently they are not a primitive people rising from the stone age, as might be supposed from their condition when first discovered by white men, but it is believed their ancestors had a high civilization which was lost when they came to their present island home. For some reason which scientists have not yet found, they were on the descending grade when we first came there. They used only stone axes, they had no pottery, no metals on their island; they had no animals other than the dog and the pig, both easily carried on their boats, yet their intelligence and traditions indicate much higher attainments.

One might go on indefinitely, discussing these strange people, some of whom like the Maoris, seem now to be ascending in the curve of civilization. Here I simply want to give replies to some of the questions asked me.

Tahiti and the hundred or so smaller islands included in French Oceania are a part of the Free French territory, but they are coming closer and closer into contact with the United States and they must play an important part in the struggle for the domination of the Pacific, particularly if the Axis Powers succeed in making considerable advances toward the Panama Canal.

Tahiti is the largest island in French Oceania and it has almost all the beauties of all other islands. It has been said that it is as fair a prospect as the heart of man could devise. Robert Keable in his "Isle of Dreams," chose the title for this enchanting place.

Tahiti would make a good naval or air base. Our house is located on its finest anchorage, Phaethon Bay, in which the largest ships in the world can lie in safety, protected from storms by the great barrier coral reef rising from the depths of the ocean; above surface, at low tide so that one can walk on it and marvel at the massive natural wall more than a hundred feet wide, more mightly than any work of man. But when the tide and the waves are the highest, torrents of water pour across, against which no man can stand. The natives then "jump" the reef in their canoes, riding just on top of a high wave, but woe to those who misjudge the time or who paddle too slowly and are crashed on the jagged reef under tons of water.

This reef lies nearly two miles from the shore and the entrance to the bay is through the great pass of Tapueraha, which lies right in front of our house, and is kept open by the river which comes down our valley. The coral is not able to grow in the fresh water carried by the river. The pass is nearly 1,000 feet wide and often a hundred feet deep. Through it ships enter the bay, through it roll the waves of the Pacific to break on the beach a hundred yards in front of our home. For miles on either side of the pass, Phaethon Bay is

sheltered from the waves and in this calm water which is 160 feet deep, ships lie quietly at anchor. Sea planes may arrive there safely and take off easily. All these shores have been charted by the United States Hydrographic Survey; and, not long ago, when four of our cruisers and two airplane carriers visited the island, our fast little planes explored every foot of the coast line and checked every landmark.

What changes war has brought to the island! With imported food from France, New Zealand, Australia, and the United States practically cut off, nearly all Americans and many Europeans have left. The natives do well on what they grow, although having become used to white bread and luxuries, such as tinned salmon and sardines, they are not happy over it. Can you imagine these people wanting to buy tinned fish instead of catching fresh fish from the sea in front of their doors!

Wheat cannot be grown in Tahiti, and now there is no flour. The Chinese bakers no longer make bread and deliver it in their little two-wheeled carts fresh every morning. There are plenty of starchy substitutes for bread, however, and the natives plan more gardens and catch more fish than they have since they began to buy stuff from the white man. In the forests grow the bread-fruit, a good bread substitute. They grow fine taro which is an excellent starchy food. They have white yams, sweet potatoes, cassava or manioc, which is the staple food of the West Indies.

The natives have pigs, chickens and cows. They grow both green and dry beans. Lima beans thrive. They have several kinds of native greens or spinach, Chinese cabbage, coconut, and common fruits, bananas, papaya, wild cooking banana or fei, oranges, limes, avocados, guavas, mangos and some less important fruits.

They have many bees and can produce as much honey as they want. They also grow sugar cane and tobacco. They need not go hungry and they will not. They will probably have better health.

Clothes are relatively unimportant, and patterning after what they have been taught, they wear more clothes than they need. They will be better off when they wear as few as they still do on the remoter islands. They no longer make their hereditary tapa cloth, either from bread-fruit bark or the finer quality from the bark of the paper mulberry. A few mulberry trees still grow here and there and plantations could be made as once was done and the manufacture of tapa resumed as it was in Samoa. The Maori people of New Zealand make their clothes from the New Zealand flax and some of it is still growing in

One of the many pieces of publicity given the Institute during 1941

Are you helping the Institute?

We should all do our part. Contributions to the American Honey Institute are usually figured on the basis of $1.00 per ton of honey produced. If you have not sent in your contribution for 1941, **send it now.**

SUPPORT THE AMERICAN HONEY INSTITUTE

Send your contributions or pledges to them at Commercial State Bank Building, Madison, Wisconsin

our valley. It has an excellent long fiber and is good for cordage as well as weaving.

However, the Tahitians have been trained into wanting things and they will not like to give them up. They will soon have to walk, ride horses, or use their canoes instead of riding the bus. It is bound to change their way of living and they do not like it, but they are like children and probably will soon become accustomed to whatever life opens up before them.

One interesting result of the change on the island is that the natives no longer spend money as they learned to do when imported things were plentiful. Why should they work on the plantations of the white man at work they never did like? They worked only because the money allowed them to buy things. Now, why should they labor for money they cannot spend?

Women carry with them bundles of bank notes which they must care for but with which they no longer can buy silks, satins, bread or luxuries.. Money is a nuisance. Their loin cloths have no pockets and so they cease to work for money. The white men say they are lazy loafers. They think it better to go fishing or up into the mountains for fei, or to grow taro which they can eat, and who can blame them?

Those of us who find more interest in our brown brothers than comes from exploiting them are watching to see how they will adjust themselves to conditions which once made up their common way of life, now almost forgotten in the lure of things they could buy at the price of hard labor.

They do not like routine day after day at the same job. They like to work hard for a time, then rest just as hard. They are like children. And we who know and love them hope that if these people become more closely associated with the United States, Tahiti will be managed as Samoa is, rather than like Hawaii, which is no longer a paradise for the Hawaiian people, nor an enchanting place for the white man.

Here are paragraphs from a letter recently received from the island:

"As far as Tahiti goes, the United States has done nothing, but a base has been established on the island of Bora-Bora, about 150 miles from Tahiti and near the phosphate island of Raiatea from which the Japanese have been getting most of their phosphate. They may even try to take from the Free French control of the Society Islands to which Tahiti, Bora-Bora and Raiatea belong.

"United States troops began arriving at Bora-Bora last November. The place is thoroughly transformed with a good road running all the way around the island. The natives are quite pleased. All of the able bodied

men and boys are working for Uncle Sam at a dollar a day, about double their previous pay. Native women are busy washing clothes for soldiers and sailors. We used to wash our own when I was in the army. Chinese merchants in Bora-Bora have left the island. There is now a United States commissary where Bora-Borans can buy Camels, Luckies and Chesterfields at 95 cents a carton. Here in Papeete we pay $1.50 for Wings when any are to be had.

"There is no boat service between Bora-Bora and any of the neighboring islands, and no one from Tahiti is permitted to go there. The commanding general sometimes comes over to Tahiti in his own boat.

"Tahiti is changing, no doubt, but changing very gradually. You would notice little difference, were you here today, in the life and customs of the people. The natives still have their white bread, coffee and sugar twice a day. While there is no canned salmon, there are now unlimited stocks of canned beef. The Tahitian government has opened a store in the public market where canned beef, rice, flour and other products are sold, presumably at cost.

"The planting of salad vegetables was reduced by the Chinamen as they had run out of seed. John Chinaman is still doing business at the old stand, getting the best of the white man and brown alike, despite reports to the contrary. Certain manufactured goods are scarce. There are no bicycle tires coming in. Living conditions are much improved over what they were six months ago. Large shipments of potatoes, onions and flour arrived within the last two weeks. You can buy unlimited quantities of butter. Kerosene is scarce. Charcoal is unobtainable. Fish is abundant and cheap. There is a big crop of oranges. The sugar ration has been increased to 6.6 lbs. per person per month. Prices are somewhat higher on the whole though sugar and many of the staples are the same.

"There is plenty of money in circulation. Soldiers' pay has been raised to a point where they get considerably more in cash than the day laborer, and on top of that they get food, clothing, and quarters.

"Do you remember how the copra sheds were filled to bursting before you left? Loss of the Philippines whose copra we took has set Uncle Sam to thinking, and has made him Tahiti conscious. The other day a big ship came in practically empty and cleaned all the copra out.

"For four and one half months, between December 10 and May 1, Tahiti received neither mail or merchandise either from the United States or Australia. From now on, conditions will be improved, as Uncle Sam is apparently interested in us."

CROP AND MARKET REPORT

Compiled by M. G. DADANT

For our August report we asked reporters to answer the following questions:

1. How is the crop this year, compared with 1941?
2. What is the prospect from now on?
3. What do you feel the price will be for new honey in your section?
   60 lbs._____white_____light amber.
   10 lbs._____white_____light amber.
   5 lbs._____white_____light amber.
4. Are buyers making offers?
   Carload_____.
   Less carload_____.
5. Will there be enough honey produced to satisfy the market?
6. Have you been able, during the season, to increase your beeswax total, as requested by the Government?

Crop Compared to 1941

Up to the date of the writing of this page on July 20, we would say that through the country generally the crop so far is far below that of 1941. It is due largely to the extremely cool weather and the large amount of rains which have interfered materially not only with bees getting out, but with the proper secretion of nectar. Added to this is high humidity which is not inducive to nectar secretion.

The New England states seem to be especially favored with probably considerable more honey than last year. The same applies to New Jersey. It is possible that the Carolinas also have above the crop of last year and this may apply to Mississippi and Louisiana.

Other sections which may be above last year at this writing are in the plains states, very particularly Nevada and Utah which are far above, with the possibility of Wyoming and parts of Montana and Nebraska. Washington has also had an excellent crop. Otherwise the crop seems to be very mediocre or in many instances, normal to flat failure. This applies especially to Ohio and Pennsylvania and extending through parts of Indiana and farther west. As one beekeeper expressed it, there have been millions of flowers, but no possibility of the bees gathering honey if it were there. Naturally there is still a possibility in the northern areas, particularly northern Wisconsin, Minnesota and the Dakotas and in Michigan and in northern New York for a crop to develop. This applies also in the Canadian provinces. In the balance of the country the white crop largely is fairly well over.

The excessive rains, of course, will mean that there will be a possibility for a continued flow from sweet clover which has been pastured, but this is likely to be mixed with fall flowers. Crops may yet become average in central areas due to these fall conditions, but the possibility is waning with each day of rain and cool weather. California prospects are extremely poor, with reporters giving from 20 per cent to 60 per cent of last year.

All in all, we do not believe there is 50 per cent of the honey gathered so far that there was at this same date last year.

Prospects

Prospects throughout the country as a result of all of the moisture are excellent for the balance of the season providing the right weather comes. Of course sweet clover is largely out of bloom in many cases, but in other instances there are large quantities of fall flowers coming along which should help with the total crop. We do not see in any instance, however, how the later crops which will be partly amber can in any way compensate for the loss of the white crop this year and the total should rule much less than in 1941.

Honey Prices

Most of the beekeepers have gotten the idea now that honey prices should range higher than last year and also are against the idea of any pyramiding boom, although one reporter suggested a price of 30 cents per pound in carload lots. The general average suggested for prices runs about 12 cents per pound for 60 pound cans, for 10 pound pails $1.75 to $2.00, and for 5 pound pails 80 cents to $1.10, ranging naturally with the section of the country. The amber honey will run about 2 cents per pound less as recommended.

Are Honey Buyers Active?

The individual consumer naturally is very active and wants to buy honey, but most beekeepers cannot furnish it. The larger buyers do not seem to have gotten largely into the market yet, however, we hear of one sale of 100,000 pounds of honey at a price of 9¼ cents delivered central western point with cans returned. Also one or two sales at 9 cents cans returned, but the main suggestions are for a price of around 10 cents delivered for good white honey f. o. b. central point on the part of the buyers, with the attitude on the part of the sellers that the price should rule perhaps 11 cents to 12 cents for this honey. With the prospects as they are, and the possibility for a short crop, we see no reason for being in a rush in disposing of this year's crop. The waiting tendency will also give an opportunity for the price control authorities to make some provision whereby the March price ceiling may be ameliorated to allow of a more uniform price. As it is, the seller who advanced prices to 12 cents or 15 cents in March gets all the advantages, whereas the beekeeper or seller who maintained last year's prices to the end of the season is "stuck" unless he can get some relief from the Price Administration. This undoubtedly will be corrected.

Enough For Market?

Practically every report is to the effect that there will not be enough honey to supply the regular markets even though we get a larger crop than is now anticipated. This is particularly true in the sections where most of the honey is sold at retail.

Will There Be An Increase in Wax?

The increase in wax depends entirely on how much surplus honey is gathered. It now looks like the amount of wax available from cappings will be much less than a year ago. However, a great number of reporters state that everyone is saving wax scrapings in cleaning off combs and that imperfect combs are being melted up and replaced during this high wax price. All in all, it does not look like there would be the wax available that there was during the 1941-42 season, both due to the fact that there will not be the harvest of wax and that probably all our great portion of the wax carry-over has now entered the market.

Summary

All in all, the season has been one which should have been a boomer for honey crops owing to sufficient moisture, but has been a disappointment because of excess moisture and too much cool, rainy weather. The markets look excellent and possibilities for a stabilization of price around a figure of 10 cents to 12 cents are indicated but there will still be the need for the saving of every ounce of wax available plus the possibility of its restricted use in some lines.

THE MARKET PLACE

BEES AND QUEENS

LEATHER COLORED ITALIAN Queens 50 cents each. We co-operate with good honey producers in selection of breeding queens and believe our stock to be as good as you can buy. Diemer Bee Co., Liberty, Missouri.

THREE-BANDED ITALIANS—Our hustler strain gets the honey. Select untested queens 60 cents each for balance of the season. Caney Valley Apiaries, Bay City, Texas.

REAL PETS — Brown's Stingless Bees. Queens $1 each. Brown's Apiary, Cape May Court House, N. J.

CAUCASIAN QUEENS—Large fine young well-bred gray queens that are a pleasure to work with and, too, the bees are dependable for honey gathering. Satisfaction guaranteed, no disease. Queens only 40 cents each. Skinner Bee Co., Greenville, Alabama, U. S. A.

GOLDENS producing bees solid yellow to tip, pure mating. H. G. Karns, Dumbarton, Virginia.

YOUNG LAYING leather colored Italian queens 50c each. Jasper Knight, Hayneville, Alabama.

QUEENS any number, 50 each. Caucasians or Carniolans. Tillery Brothers, Rt. 4, Greenville, Alabama.

EXTRA YELLOW Italian queens that produce bees a little more yellow than three-banded; more gentle and just as good workers. Untested, 50c each. Health certificate and satisfaction. Hazel V. Bonkemeyer, Randleman, N. C., Rt. 2.

THREE BANDED QUEENS bred for honey production. Write for prices. Dalice E. Crawford, Haw River, N. C.

THREE BANDED ITALIAN Bees and Queens. Extra good workers. 2-lb. package with queen $2.00 each; 3-lb. package with queen $2.50 each. Select untested queens 50c each, any number. Health certificate with every order. Alamance Bee Company, Geo. E. Curtis, Mgr., Graham, North Carolina.

GOLDEN QUEENS—Excellent quality, gentle, productive. Health certificate. Satisfaction guaranteed—50c. O. E. Brown, Route 1, Asheboro, North Carolina.

GOLDEN ITALIAN QUEENS of extra fine quality and very gentle. 50c each, any number. Satisfaction guaranteed. Carolina Bee Farm, W. O. Curtis, Mgr., Graham, N. C.

CHOICE BRIGHT ITALIAN Queens northern bred, for gentleness, and hustlers. 75c each, dozen $8.00. Emil W. Gutekunst, Colden New York.

PACKAGES BEES AND QUEENS—Pure Italian. Prompt shipment, low prices and honest dealings. CRENSHAW COUNTY APIARIES, RUTLEDGE, ALA.

CAUCASIAN BREEDERS ONLY—Laying queens 75c; tested $2.00. 2-lb. pkg. and queen $2.30; 3-lb. $3.00. Miller Bros. Rt. 1, Three Rivers, Texas.

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HONEY FOR SALE—We buy and sell all kinds, carloads and less. The John G. Paton Company, Inc. 630 Fifth Avenue, New York, N. Y.

No. 1 CLOVER COMB honey $3.00 case; amber or buckwheat $2.75. New crop July, higher. C. B. Howard, Geneva, N. Y.

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other reference with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease or state exact condition, or furnish certificate of inspection from authorized inspectors. Conditions should be stated to insure that buyer is fully informed.

HONEY FOR SALE—We buy and sell all kinds, any quantity. H. & S. Honey and Wax Company, Inc., 265-267 Greenwich St., New York.

WE BUY and sell any quantity, all varieties. B-Z-B Honey Company, Alhambra, California.

HONEY PACKERS—Write us for prices on carload lots of California and Western Honey. We stock all varieties. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.

COMPLETE LINE comb and bottled honey. Pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, Ohio.

FOR SALE—Northern white extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

NEW CROP extra quality white clover extracted honey. Sample 15 cents. A. J. Wilson, Hammond, N. Y.

HONEY AND BEESWAX WANTED

WANTED—White clover honey in sixties. State price, quantity in first letter. C. Jankowski, Prairie View, Illinois.

WANTED TO BUY—White and light amber honey, truck load or carload. Fred Wyatt, Oak Grove, Missouri.

WANTED—White clover extracted, section and chunk comb honey in large amounts. Quote price and amount. KEDASH BROS., Chillicothe, Ohio.

HONEY WANTED—Truck or carload lots delivered to Sioux City, Iowa. Write us at Wendell and submit sample. R. D. BRADSHAW & SONS, WENDELL, IDAHO.

CASH for extracted clover and orange honey. Send sample and best price. Bizzy Bee Ranch, No. Abington, Mass.

WANTED--Honey and Beeswax. Mail samples, state quantity and price. Bryant & Cookinham, Los Angeles, Calif.

CASH FOR YOUR WAX the day received. Write for quotations and shipping tags. Walter T. Kelley Co., Paducah, Kentucky.

WANTED—Large quantities of chunk honey in shallow frames; also section honey. Central Ohio Apiaries, Inc., Millersport, Ohio.

ALL GRADES extracted honey wanted. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th Street, Detroit, Michigan.

FOR SALE

We have used honey cans for sale—price 15 cents a piece f. o. b. New York, Max Ams, Inc.

USED 10 frame equipment. Health certificate furnished. Herbert Reim, Watertown, Wisconsin.

FOR SALE—1 to 1000 colonies of bees. Disease free. Weaver Apiaries, Navasota, Texas.

FOR SALE—Bees and bee equipment with or without honey. Extra queen excluders, inner covers, etc. Kennedy Honey Co., 3301 Fowler Ave., Omaha, Nebraska.

FIVE producing milk goats. Reasonable. Rev. H. Miller, Saratoga, Indiana.

FOR SALE—Several used two frame extractors, good condition. Voelkel, Ashley, Illinois.

POSITIONS AND HELP WANTED

WANTED—Experienced man in Queen, Package and Honey Production. Steady work all year. Give full particulars when replying. Al Winn, Rt. 1, Box 729A, Petaluma, Calif.

WANTED—Man to take over 1000 colonies of bees, half basis. Good locations, may get fall flow. I have equipment party may have reasonable, 5 room house. O. Wedgworth, Florence, Arizona.

MAN 35 years old, one child, class 3-A, wants work. Experienced in honey production, queen rearing, control of foulbrood and all other bee diseases. Jake Moon, Gen. Del., Covington, Tennessee.

SUPPLIES

YOUR WAX WORKED into high quality medium brood foundation for 15c pound; 100 pounds $12.00. Fred Peterson, Alden, Iowa.

I have material on hand for a limited number of the new improved Foster Hive Lifters. Using hydraulic lift. No advance in price (75 dollars). If interested will furnish photo of machine. Wade H. Foster, Bad Axe, Michigan.

THE ONLY COMPLETE LINE of wax rendering equipment ever offered—the "Perfection" line. A size and type suitable for every commercial beekeeper. Write for descriptive circular. Robinson's Wax Works, Mayville, N. Y.

COMB FOUNDATION at money-saving prices. Plain, wired, and thin section. Wax worked at lowest rate. Combs and cappings rendered. Robinson's Wax Works, Mayville, N. Y.

DIFFERENT, that's all. Written and published for the instruction of beekeepers. 52 pages of breezy entertaining beekeeping comment each month. One year, $1.00; two year, $1.50. Sample, 3c stamp.
Beekeepers Item, San Antonio, Texas.

LARGE CASH SAVINGS can be made by letting us work your wax into either wired or plain foundation. Large independent factory manufacturing a complete line of bee supplies including extractors, etc. Selling direct saves you the agents profit. Quick shipment from large stock. Large free catalogue explains everything. Walter T. Kelley Co., Paducah, Kentucky.

WRITE FOR CATALOGUE. Quality bee supplies at factory store prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Bee Supplies, Onsted, Michigan.

PORTER BEE ESCAPES are fast, reliable, labor savers. R & E. C. Porter, Lewistown, Illinois.

MISCELLANEOUS

BEST bee-hunting outfit. Grover, Bristol, Vermont.

A WESTERN BEE PAPER, edited and published for Western Beekeepers. One dollar a year or with the American Bee Journal one year for $1.75. Western Honey Bee, 3905 Lemon Street, Riverside, California.

SUBSCRIBE for Honey Cookery News—bimonthly 35c. 3414 So. Western Ave., Chicago, Illinois.

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Bright 3-Banded Italian Queens

Begin now. Requeen with our improved stock and you can divide your colonies next spring and save on package buying. 1 to 50, 60c. 50 up 50c each.

Taylor Apiaries, Luverne, Ala.

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For 19 years, this famous strain of Italians has pleased the most exacting honey producer and has made me friends wherever purchased. Try them and make this a profitable season.

In addition to the above strain, I will be able to supply you with queens, from stock bred for resistance to disease. Colonies averaged 200 lbs. in Mississippi, the past season—and this is no honey state.

Prices either strain

Lots of 1-24, 60c; 25-99, 55c; 100-499, 50c;

Tested queens double the price of untested. All queens clipped free upon request.

A. E. SHAW, Shannon, Miss.

QUEENS UNTIL NOV.

Each	45c
10 or more	40c
50 or more	35c

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NEWS

A device to keep ants away from hives. Fits all 10 frame bottom boards, or any stands. Works fine. A try pair for $1.50 express collect. Shipping weight 12 lbs.

Use JENSEN'S Queens--because

They are as good as money and effort can make them. Where else in all the world, except in the beehive, can you find a living thing no larger than a queen, upon which man so much depends for the success of his enterprise?

Then to consider how much difference there can be between queens so much alike in appearance, yet selling at the same price. We have spent many years in study and work to develop the best possible queens, proof of which is best found in their use, as so many others have done. Requeening time is just at hand, prepare for next year NOW. Be sure every colony has a good queen to produce that winter cluster, and to come back strong next spring.

PRICES

1-25, 65c each. 26-100, 60c each. 101-500, 55c each and 500 up 50c each

JENSEN'S APIARIES : Macon, Miss.

The home of "Magnolia State" strain Italians

QUEENS—Italian or Caucasian

We will maintain our queen yards throughout the season. Prices effective June 1st to the end of the season—50c each; $47.50 per 100.

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Honey Containers

A Complete Line at the Right Price.

GLASS CONTAINERS

8-oz., 16-oz., and 32-oz. jars, 5-lb. honey pails

All packed in paper cartons. Furnished in the plain round style of Modernistic.

TIN CONTAINERS

5-lb. and 10-lb. friction top pails, 60-lb. cans.

Write for our price list.

A. H. RUSCH & SON CO.

REEDSVILLE, WISCONSIN

THE POSTSCRIPT

The smallest magazine to come to my desk is "Rainbow's End" edited by C. W. Wood at Copemish, Michigan, at 25 cents per year. Wood is an unusual plantsman and anything he writes is likely to be interesting to the garden lover. My prediction is that this little magazine will grow bigger and that Rainbow's End will soon be a well-known garden publication.

♦

Strawberry clover has been a failure in our test plots. Apparently it requires constant moisture in order to survive. Enthusiastic reports concerning it come from Nebraska and Colorado where it has done well on wet land. Apparently it will succeed in areas where there is a heavy concentration of salt through seepage. Since few legumes will grow in such places it is very valuable for salty lands under irrigation.

♦

Another report of honey from milk vetch is received. This one is from C. T. McKnight, of Shreveport, Louisiana, who reports the bees working freely on Astragalus obcordata in early spring. The milk vetches compose a very large group with dozens of different species. We have a dozen or more in our test plots in hope of finding one that may prove to be a major honey plant and at the same time be useful for some other purpose.

♦

Letters are coming to me asking for addresses of firms that buy crude drug plants. A list of such firms can be secured on request from Bureaus of Plant Industry, Washington, D. C.

There are a number of such firms located in various cities from New York to San Francisco.

♦

One of the very attractive bee plants in our test garden is the scarlet turtlehead or shell flower, **(Pentstemon barbatus coccineus)** which grows in the mountains of Utah and southward to Mexico. It blooms through most of the month of June and is constantly alive with bees. The bees crawl into the deep red flower for the nectar which apparently is secreted in abundance. It is highly ornamental and quite desirable for the gardens.

♦

In the year 1922 there was much interest in Escambia County, Florida, in a related plant which the beeman called "Wonder honey plant" because crops of as high as 200 pounds of comb honey were reported from it. The seed was quite widely scattered in an attempt to spread the plant. That species was Pentstemon laevigatus. Since little has been heard from it since, it seems probable that not much came of this effort.

Many of the pentstemons are good honey plants and some of them are quite common in the higher altitudes of the Rocky Mountains. One species is reported as the source of surplus honey in the Missouri River hills south of Sioux City, Iowa.

♦

The Iowa Beekeepers' Association is cooperating in a stock selection program in the American Bee Journal experimental apiaries. Dr. O. W. Park tests young queens reared by the association for disease resistance. F. B. Paddock, state apiarist, checks for color, temper, brood pattern and other desirable qualities which should be combined with resistance In this manner it is hoped that a strain of resistant bees can be developed with no undesirable qualities such as have been evident with some of the stock. Very satisfactory progress is evident but the honeybee is a short-lived creature and many difficulties are encountered.

Mention of two-story brood chambers in the June Journal has brought letters from readers who think that two Dadant hive bodies provide too large a space. In our experimental apiaries part of the bees are kept in single story Dadant hives and the rest in two-story hives of the same kind. Those wintered in the double hives are stronger in spring, store more honey and require less attention than the single story colonies. In some there were clusters that spread across nine frames on April first. We had no such colonies in single story hives.

♦

The secret of large clusters in early spring lies in a large reserve of stored pollen carried over winter; and the extra hive body provides ample space for such storage. One correspondent writes that with so much space to heat he would not expect the bees to survive. The fact is that with us they winter better. Colonies going into winter with large clusters of young bees, a vigorous queen and ample stores are likely to come through safely in spite of severe cold. Apparently it is not so much the cold as condensation of moisture within the hive that causes winter losses. Upper entrances do much to overcome the moisture problem.

♦

Virgil Weaver reports that on May 30 near Columbia, Missouri, he found no bees on white clover, but many were working on the heads of blue grass from which they were apparently getting some sweet.

Now and then there is a season when the bees work freely on one or another of the grasses, getting a kind of honeydew from a fungus that may be present. This plant honeydew is different from that secreted by aphids and is more like nectar. The quantity gathered is seldom large, but on rare occasions a small amount of surplus is reported.

♦

Saffron is a plant which has been grown for a costly dye-substance in southeastern Europe and the Orient for centuries. Spain has long produced large quantities of the material. Even in the days of low prices it sold for about ten dollars a pound at the point of origin and of course much higher to the ultimate consumer. Since the plant succeeds only in mild climates, it is little known in this country.

♦

An interesting letter about saffron comes from George H. Vansell, of Davis, California, who described a plot grown by the agronomy department of the College of Agriculture. He says: "An individual floret produces so much nectar that it fills up the tube and runs out on the bases of the petals. The nectar is quite rich in sugar exceeding by 10 to 15% samples taken from neighboring alfalfa plants." He tells also of the activities of the bees and says that the plot is simply humming with activity.

Saffron was noted as a bee plant even by the ancients and in countries where it is grown commercially the beemen must profit substantially.

♦

We have been trying the Dupont weed killer as a means of destroying persistent weeds. This is a new chemical that is free from the usual objectionable features of such compounds. It is non-poisonous and is not explosive. When properly sprayed on the foliage it kills both growth above ground and roots. It is especially desirable with poison ivy which is dangerous to handle and difficult to kill by ordinary methods.

It can be obtained from Grasseli Chemicals Dept., of DuPont de Nemours & Co., Wilmington, Delaware. Where land is infested with Canada thistle, poison ivy or other difficult weeds, try this weed killer.

FRANK C. PELLETT.